

A BOOK OF
GREAT MEN AND WOMEN

	10820
	G. 10.
1081	

A BOOK OF GREAT MEN & WOMEN

BY

DONALD A. MACKENZIE

Author of "Myths of Crete and Pre-Hellenic Europe"
"Footprints of Early Man" &c.



THE GRESHAM PUBLISHING COMPANY LTD.

66 CHANDOS STREET, COVENT GARDEN, LONDON

Acc. No.	10820
Class No.	G. 10.
Book No.	1089

Printed in Great Britain

FOREWORD

In this volume is illustrated, by the lives of men and women of genius, the progress achieved in various spheres of activity from the latter part of the Middle Ages till our own time. The modern age really began with that wonderful movement known as the Renaissance, which created an influence that still continues to operate. It was a revival of the spirit of liberty in thought and action, of the desire for self-expression, of the thirst for wider knowledge, of the love of beauty and of political freedom, and it was accompanied by much intellectual energy. It began at different dates in different countries in Western Europe, the lead coming from Italy, where it was of growing strength in the fifteenth century.

The movement was first stimulated in Italy by a revival of interest in ancient Greek literature and art which had long been neglected there. Greek love of beauty and the speculative spirit in ancient Greek literature began to influence artists and thinkers, fostering more freedom of thought and widening and refining the outlook upon life. Then a great political crisis stirred Western Europe to its depths. The non-Christian Turks, advancing from Asia, captured Constantinople in 1453, causing many men of culture to take flight to Italy, where they strengthened the Renaissance movement as exponents of the ancient Greek spirit in art and learning. Meantime, as a result of their

occupation of Constantinople, the "clearing house" for trade with Asia, the Turks blocked the trade-routes to the East. Christian merchants had to pay toll to the Turk for imports from Persia, India, Ceylon and the East Indies, leaving little profit for themselves. This crisis was ultimately overcome by the energy and enterprise displayed by the Christian traders. A new feature of the Renaissance movement developed in an outburst of exploring energy. Search was made by sea for new routes towards the East, and ultimately Columbus discovered America, and Vasco da Gama explored the sea-route to India by way of Cape of Good Hope. Columbus thought he would reach the Indies by crossing the Atlantic, and happened instead upon the unknown Continent of America. The world thus grew larger, and the mental horizons of men were widened. Trade was revived and greatly increased, and the accumulating wealth made possible the endowment of art and learning.

The Renaissance movement brought changes into the political sphere. Feudalism was doomed by the rise of individuals enriched by trade to positions of political influence and by the widespread growing desire for personal freedom. Nations became more and more self-conscious, and were gradually organized as independent units instead of remaining as loose patchworks of feudal estates or duchies. Political power in England, France and Spain was more than before centred in the Crown, and city states, as in Italy, grew strong and independent. The idea of a united Christendom under the Holy Roman Empire then gradually faded into the background, while Latin, the language of learning and of communication between rulers, was supplanted by national languages with the result that the growth of national literatures was promoted. Dante in Italy was a pioneer in the vernacular revival and was there-

fore, in a sense, a pioneer of this aspect of the Renaissance, although otherwise typical of the Middle Ages. In England Chaucer similarly wrote in the language of the common people, and was a pioneer of a new creative and imaginative literature which was to become one of the greatest in Europe.

The political aspect of the Renaissance was manifested in the new science of statecraft known as diplomacy, which is dealt with in our chapter on Machiavelli. In the scientific field the exploring spirit of the Renaissance was displayed by astronomers like Copernicus and Galileo. When Galileo had improved the telescope, he explored space as great navigators explored the trackless oceans and made discoveries which profoundly influenced thought and promoted research and progress.

In the domain of Art the spirit of the Renaissance was brilliantly displayed. Turning from the conventional, symbolic and hide-bound art of the Middle Ages, the pioneers had their eyes re-opened to the beauties of Nature and, under the influence of ancient Greek art, became realistic, idealistic, vigorous and vital. When the Renaissance movement in art reached its highest level it had as its exponents great masters like Leonardo da Vinci and Michelangelo, whose achievements have never been surpassed. Mr. J. A. Symonds, writing of the Renaissance, has said: "What the word really means is new birth to liberty—the spirit of mankind recovering consciousness and the power of self-determination, recognizing the beauty of the outer world and of the body through art, liberating the reason in science and conscience in religion, restoring culture to the intelligence, and establishing the principle of political freedom."

This volume begins with the early manifestations of the Renaissance in England, and then traces the movement in its various aspects on the Continent. In the biographical

sketches are revealed the rise and growth of a new art and new literature, various political speculations and changes, the important discoveries of explorers, the profound researches of pioneer scientists, and the rivalries and ambitions of growing nations in their struggles for supremacy. It will be found that the history of progress and change in the modern world has been profoundly influenced by the efforts of individuals, the leaders of mankind—an indirect result of the Renaissance movement which promoted individualism. Far-reaching influence was exercised, for instance, by military and naval geniuses, as is shown in the chapters devoted to Gustavus Adolphus, Cromwell, Robert Blake, the Duke of Marlborough, Frederick the Great, Nelson, Napoleon and Wellington—all “makers of history”. Other leaders who brought about revolutions and social changes were the inventors, including the “makers” of the modern cotton industry, the inventors of the steam engine, the railway engine and the steamer, and the later inventors of the airship and aeroplane. Profound changes in social and international relations were likewise accomplished by the inventors of the telegraph, telephone and of the phonograph leading to the introduction of broadcasting. The Renaissance influence in learning and research has steadily grown and permeates modern culture and scientific activities, while in the sphere of art the original impulse, an essential spirit of liberty, continues to operate with inspiring vigour. Literary inspiration is still rooted in Renaissance ideals. Indeed, much of the culture and civilization of the modern world bears the impress of the principles of the Renaissance.

D. A. MACKENZIE.

CONTENTS

CHAP.		Page
	FOREWORD - - - - -	v
I.	THE POET AND THE PRINTER - - - - - Chaucer and Caxton.	1
II.	THE LADY OF THE RENAISSANCE - - - - - Lady Margaret Beaufort.	5
III.	A PILGRIM IN THE OTHER WORLD - - - - - Dante.	8
IV.	A PIONEER SCHOLAR - - - - - Petrarch.	11
V.	THE FIRST NOVELIST - - - - - Boccaccio	13
VI.	THE WONDERS OF ASIA - - - - - Marco Polo.	15
VII.	DISCOVERY OF AMERICA - - - - - Columbus.	18
VIII.	AN EXPLORER AND EPIC HERO - - - - - Da Gama and Camoens.	24
IX.	THE CONQUEST OF MEXICO - - - - - Cortez.	28
X.	CONQUEST OF PERU - - - - - Balboa and Pizarro.	32
XI.	THE MAID OF FRANCE - - - - - Joan of Arc.	35
XII.	CHRISTIANITY AND POLITICS - - - - - Machiavelli.	39
XIII.	A NEW ERA IN ART - - - - - Giotto, Fra Lippo Lippi, Masaccio, Botticelli.	42

CONTENTS

CHAP.		Page
XIV.	A GREAT VERSATILE GENIUS - Leonardo.	45
XV.	TWO FAMOUS ARTISTS - Michelangelo and Raphael.	49
XVI.	POPULAR EPIC POETS - Pulci, Ariosto, Tasso.	53
XVII.	PIONEERS OF SCIENCE - Roger Bacon and Copernicus.	58
XVIII.	THE STATE OF UTOPIA - Sir Thomas More.	60
XIX.	THE SIMPLE LIFE - Montaigne.	63
XX.	GREAT INVENTIONS FORESHADOWED Lord Bacon and "New Atlantis".	67
XXI.	ENGLAND'S GREATEST QUEEN - Queen Elizabeth.	70
XXII.	A MASTER MARINER - Sir Francis Drake.	74
XXIII.	POETS AND COURTIERs - Wyatt, Surrey, Sidney and Spenser.	77
XXIV.	A SPANISH SATIRIST - Cervantes.	80
XXV.	THE WORLD'S GREATEST DRAMATIST Shakespeare.	82
XXVI.	THE SHEPHERD OF THE OCEAN - Sir Walter Raleigh.	86
XXVII.	THE INVENTOR OF LOGARITHMS - Napier.	88
XXVIII.	A PIONEER ASTRONOMER - Galileo.	90
XXIX.	PIONEER OF MEDICAL SCIENCE - William Harvey.	91
XXX.	A MILITARY REFORMER - Gustavus Adolphus.	96
XXXI.	LANDSMAN WHO BECAME ADMIRAL Robert Blake.	100

CONTENTS

xi

CHAP.		Page
XXXII.	THE COMMONER AND THE KING - - - John Hampden.	103
XXXIII.	THE MAN WHO REFUSED A CROWN - - Oliver Cromwell.	106
XXXIV.	THE ENGLISH HOMER - - - - - John Milton.	110
XXXV.	A GREAT PHILOSOPHER - - - - - John Locke.	113
XXXVI.	A HISTORIC APPLE - - - - - Sir Isaac Newton.	115
XXXVII.	A GREAT ENGLISH GENERAL - - - Marlborough.	117
XXXVIII.	ANSON'S VOYAGE ROUND THE WORLD - -	120
XXXIX.	A BENEFACTOR OF THE WORLD - - - Watt.	123
XL.	MAKERS OF THE COTTON INDUSTRY - - Hargreaves, Arkwright and Crompton.	126
XLI.	EARLY ENGLISH NOVELISTS - - - - Defoe, Swift, S. Richardson, H. Fielding and T. G. Smollett.	129
XLII.	A MAKER OF GERMANY - - - - - Frederick the Great.	134
XLIII.	PIONEER WOMEN WRITERS - - - - - J. Grey, Mildred Cooke, M. More, Duchess of Newcastle, K. Philips, A. Kingsmith, Lady M. W. Montague, Lady G. Baillie, Lady E. Wardlaw, A. Cockburn, J. Elliot, S. Fielding, C. Lennox, H. Chapone, H. M. Williams, A. Plumptre, C. Reeves, Mrs. Thrale, A. Seward, Hannah More, A. L. Barbauld, I. Pagan, S. Blamire, Lady A. Barnard, Mrs. E. Grant, Mrs. A. Opie, Mrs. Hunter, Mrs. Tighe, &c.	138
XLIV.	FARM BOY WHO BECAME AN EXPLORER - - Capt. Cook.	145
XLV.	EXPLORER WHO WAS RIDICULED - - - James Bruce.	149
XLVI.	THE FIRST AMERICAN PRESIDENT - - - George Washington.	153

CHAP.		Page
XLVII.	A BUILDER OF EMPIRE - - - - - Alexander Mackenzie.	157
XLVIII.	A GROUP OF PAINTER GENIUSES - - - - - Hogarth, Kneller, Thomas Hudson, Sir J. Reynolds, Gainsborough, Romney, Sir Thomas Lawrence, Sir Henry Raeburn, John Crome, John Constable, Turner, William Blake.	161
XLIX.	SCOTLAND'S NATIONAL BARD - - - - - Robert Burns.	166
L.	THE HERO OF TRAFALGAR - - - - - Nelson.	168
LI.	THE MAN OF DESTINY - - - - - Napoleon Bonaparte.	174
LII.	THE IRON DUKE - - - - - Wellington.	180
LIII.	MEN AND WOMEN ASTRONOMERS - - - - - Sir W. Herschel, Caroline Herschel, Sir John F. W. Herschel, Laplace and Mary Somerville.	184
LIV.	WOMEN IN SONG AND STORY - - - - - Joanna Baillie, Lady Nairne, Maria Edgeworth, Jane and Anna Porter, Jane Austen, Lady Morgan.	188
LV.	THE WIZARD OF THE NORTH - - - - - Sir Walter Scott.	190
LVI.	A CLASSIC OF TRAVEL - - - - - Mungo Park.	194
LVII.	TWO GENIUSES OF SCIENCE - - - - - Humphry Davy and Michael Faraday.	199
LVIII.	AN ENGLISH RENAISSANCE - - - - - James Thomson, W. Blake, William Cowper, Wordsworth, Coleridge, Byron, Shelley, Keats.	203
LIX.	THE PIONEER OF RAILWAYS - - - - - George Stephenson.	208
LX.	THE FIRST STEAMERS - - - - - Patrick Miller, Robert Fulton, Henry Bell.	212
LXI.	NINETEENTH CENTURY POETESSES - - - - - Ann Taylor, Mrs. Hemans, Letitia Elizabeth Landon, Helen Selina, Lady Dufferin, Caroline Elizabeth Sarah Norton, Adelaide Ann Procter, Elizabeth Barrett Browning, Christina Georgina Rossetti.	214

CONTENTS

CHAP.									
									xiii
									Page
LXII.	AN ANTI-SLAVERY LEADER	-	-	-	-	-	-	-	218
	Abraham Lincoln.								
LXIII.	TWO AFRICAN EXPLORERS	-	-	-	-	-	-	-	220
	David Livingstone, Henry M. Stanley.								
LXIV	INVENTORS OF TELEGRAPH AND TELEPHONE	-							224
	Dr. Charles Morrison, Samuel Morse, Sir Charles Wheatstone, Alexander Graham Bell.								
LXV.	GREAT VICTORIAN POETS.	-	-	-	-	-	-	-	228
	Alfred Tennyson, Robert Browning, Matthew Arnold, Algernon Charles Swinburne.								
LXVI.	QUEEN OF ENGLAND'S MAIDS	-	-	-	-	-	-	-	232
	Grace Horsley Darling.								
LXVII.	GREAT VICTORIAN NOVELISTS	-	-	-	-	-	-	-	234
	Charles Dickens, William Makepeace Thackeray, Charles Reade, Charlotte Brontë and Emily Brontë, Mrs. Gaskell, George Eliot.								
LXVIII.	A GREAT PIONEER NURSE	-	-	-	-	-	-	-	240
	Florence Nightingale.								
LXIX.	MODERN SCHOOLS OF PAINTING	-	-	-	-	-	-	-	244
	Ford Madox Brown, Holman Hunt, Dante Gabriel Rossetti, John Everett Millais, Edward Burne-Jones, George Frederick Watts, James McNeil Whistler.								
LXX.	TALKING MACHINE AND ELECTRIC LIGHT	-							248
	Thomas Alva Edison.								
LXXI.	CONQUEST OF THE AIR	-	-	-	-	-	-	-	250
	Dædalus, King Bladud, Dr. Black, Pilâtre de Rozier, Count Zeppelin, Wilbur and Orville Wright.								



GREAT MEN AND WOMEN

CHAPTER I

The Poet and the Printer

Before printing was invented, the only books to be had were those written by hand in manuscript form, and they were scarce and costly, the work of making copies being most laborious. The readers were not very numerous. Education was limited mainly to the priestly class and those trained for legal, government and business positions. Then there was the language difficulty, books being written in Latin.

A new era dawned when at the close of the mediæval period literary works were composed in the spoken languages of European states and a beginning was made in producing printed books. The number of readers then increased greatly for it was no longer necessary to acquire Latin to read for instruction and enjoyment.

In England the first great author who made a wide appeal by writing in the language of the masses of the people was Geoffrey Chaucer, the poet, and the first printer and publisher was William Caxton.

Chaucer lived during the latter half of the fourteenth century. He was born in London about 1340 and, dying on

25th October, 1400, was interred in the "Poets' Corner", Westminster Abbey, London.

When Chaucer began to write a great change was passing over Western Europe. A new spirit of inquiry and adventure was "in the air". Scholars, scientists, artists and explorers became very active and the outlook on life was changing greatly. The works of the ancient Greek writers, which had long been neglected, aroused fresh interest; the mysteries of Nature's laws were investigated anew and wonderful discoveries emerged; the beauties of Nature awakened poets, painters and sculptors to greater effort; and the world seemed to grow larger and life more complex as the explorers returned to tell of new countries and strange peoples they had reached.

This movement is known as the Renaissance, which means a revival. It involved a break with tradition. Men were no longer content to follow in the steps of those who had been before them and began to assert their independence by thinking and acting for themselves.

Chaucer was one of those who struck out on new lines. When he was a youth the poets and story-tellers continued the fashion of writing about the fabulous adventures of knights who fought dragons, giants and other mythical monsters. Popular lays were composed in Norman-French and other works in Latin. Chaucer composed his poems in the English of his time, and related real and personal experiences as a lover of nature and as one who had a story to tell. His characters were drawn from life.

The poet's finest and best known work is his collection of narratives in verse called *The Canterbury Tales*. He writes of a company of pilgrims who set out from London at the beginning of the warm season to visit Canterbury. The various members of this motley company are described

with deftness and charm, and Chaucer gives his poetic versions of the various stories told by some of them to entertain their listeners. We are afforded vivid glimpses of the life and manners of the time. Withal, Chaucer makes his characters live and greatly interests his readers in them.

Among the pilgrims depicted by the poet are the gentlemanly knight; the curly-headed young squire who sings and whistles as he rides on his way; the yeoman clad in green with closely-cropped hair and sunburnt face; the coy and gentle prioress who loves dogs and other animals; the monk who prefers hunting to study; the jolly friar with eyes that twinkle like stars on a frosty night; the Oxford scholar, a great lover of books, who is lean and shabbily clad; the franklin whose chief delight is in wine and good cooking; the doctor who is greedy for gold; the "wife of Bath" who is a great talker and laughs readily, but is slightly deaf; the humble and learned parson who is an earnest preacher of the gospel; the red-bearded merry miller; the slender, long-legged reeve; the tipsy sompnoir with "fire-red" face; the pardoner with yellow hair, staring eyes, and a thin goat-like voice; and others, including a sailor and artisans.

The English of Chaucer is archaic, but when one becomes familiar with it by referring to a glossary, the charm of his verse and stories makes ready appeal. His poetry is found to be natural and sincere; he is a humorist, a satirist of human foibles, a man of tender sympathies whose pathos is genuine and eloquent, and a great master of the art of story-telling. He set a new fashion of writing which many poets have followed, and he is therefore usually referred to as "the father of English poetry".

William Caxton (1422-1491) was a native of the Weald of Kent. He began life as an apprentice to a merchant in

London, and when only seventeen years of age migrated to the city of Bruges in Belgium, where he set up in business for himself. In the course of about thirty years he became a wealthy man. His leisure hours were devoted to study, and when the art of printing was introduced he took a great interest in it, realizing its educational and commercial possibilities. In 1473 he established a printing business in Bruges in partnership with Colard Mansion. Three years later he returned to London and established a printing and publishing house at Westminster, his foreman being a man named Wynkyn de Worde, whom he had brought from Bruges. The first book he printed in London was published in November 1477. It was a translation by Earl Rivers of a French work and entitled *Dictes or Sayengis of the Philosophers*. In 1478 appeared an edition of Chaucer's *The Canterbury Tales*. Caxton himself translated twenty-one books and published nearly eighty. Among the most famous of these was Sir Thomas Malory's *Morte d'Arthur*, a compilation of the Arthurian romances which was first issued in 1485.

It is not quite certain who made a beginning in the art of printing by inventing movable types. Some hold it was Lawrence Custer, a Dutchman who lived in the town of Haarlem, while others give the credit to John Gutenberg, a German who was born in the town of Mainz in 1390 or 1398. In the middle of the fifteenth century Gutenberg had as a partner John Fust, from whom he had borrowed money. Fust subsequently set up in business as a printer with Peter Schoeffer, his son-in-law, and produced in 1457 a psalter, the first printed book that bears a date. Other books followed. In 1460 Strassburg had a printer named Mentelin and in 1466 Cologne had one named Ulrich Zell. Printing establishments were subsequently set up in Rome

(1467), in Venice (1469), and in Paris (1470). Before the end of the fifteenth century there was a number of printing firms in various European countries. In the revival of learning and the spread of culture during the Renaissance period, the printed book played a most important part.

CHAPTER II

The Lady of the Renaissance

When Caxton set up his printing press at Westminster he received the special protection and patronage of Lady Margaret Beaufort (1441-1509), whose son was to become King Henry VII of England. She was a cultured lady and a lover of books and learning. For more than four centuries her name has been revered on account of her liberality to the great Universities of England and especially as the founder of Christ's College and St. John's College, Cambridge. As a patroness of the "new learning" or "the revival of learning", especially in its moral and religious aspect, she played an important and influential part, and was in England "the Lady of the Renaissance".

Lady Margaret was the daughter of John Beaufort, first Duke of Somerset, the grandson of John of Gaunt, Duke of Lancaster, who was a son of King Edward III. As mother of Henry VII, Lady Margaret was the great-grandmother of Queen Elizabeth. Her granddaughter, Princess Margaret, married King James IV of Scotland, and her great-grandson, James VI of Scotland, became James I, King of the United Kingdom. Lady Margaret was therefore an ancestress of the present sovereign of Great Britain. Her earliest link

with Scotland was through her aunt, the Princess Joan, who married James I, King of that nation.

She married three times. Her first husband was Edmund Tudor, Earl of Richmond, father of Henry VII; her second Henry Stafford, son of the 1st Duke of Buckingham; and her third Thomas Stanley, the 1st Earl of Derby.

When Henry VI died shortly after the battle of Tewkesbury in 1471 and the Lancastrian cause seemed shattered, Lady Margaret sent her son Henry to Brittany under the care of Jasper Tudor, who subsequently became Duke of Bedford. During the reign of Richard III she was the moving spirit in planning the overthrow of that usurper, being a far-seeing woman of strong character. Her plan was to marry her son Henry to Elizabeth of York, sister of the two princes whom Richard III had put to death, and thus to unite the rival royal families and bring to an end the struggle which had caused the "Wars of the Roses".

The first insurrection in 1483 proved a failure and her ally, Buckingham, was seized and executed. Richard III came to know of the part she had played, but spared her life, because her third husband, Lord Stanley, the future Earl of Derby, gave him "good and faithful service". Richard ordered Stanley to keep Lady Margaret confined "in some secret place" and transferred all her property to him.

Meantime Henry, reinforced by refugees from England and provided with funds previously sent to him by Lady Margaret, was preparing for the great struggle for the crown. In the summer of 1485 he landed at Milford Haven with a small force, received the support of powerful leaders, including the Stanleys, and won the battle of Bosworth Field in which Richard III was slain. Henry subsequently married the Princess Elizabeth whose name was to be

inherited by her granddaughter, England's greatest Queen.

Lady Margaret, Countess of Richmond and Derby, who became known as "My Lady, the King's mother", had all her estates restored to her and, in addition, received "castles demesnes, manors and lordships, lands tenements rents and services" in several counties, which had previously belonged to her father and mother and had been seized by the Crown.

In political life she was an active influence, guiding her son in reducing the power of the baronage and strengthening that of the Crown. She also took a prominent part in church affairs and was a generous donor in restoring and endowing religious houses. Apparently she had much to do with arranging the marriage of Princess Margaret to James IV of Scotland. It was from her home that the Princess set out on her journey to the north, riding on a "faire palfrey" and accompanied by a chariot lined with fur.

After John Fisher, later the Bishop of Rochester, became her confessor and friend in 1495, she laboured with him to improve the Universities of Cambridge and Oxford, and to revive preaching in English "gravely and with an evangelical spirit". She endowed lectureships in divinity at both Universities. At Cambridge, where she founded the two Colleges, she had rooms reserved for herself and took a great interest in the welfare of the students, to whom she was "a mother". Fisher's influence has been traced in the introduction of the study of Greek at Cambridge and Lady Margaret's patronage there resulted in the statutes for the study of logic, philosophy, oratory and poetry.

Lady Margaret had a large library of her own. She translated from French *The grete shypppe of Foules of this Worlde*, which Caxton published, and Caxton dedicated to her a book intended for "all vertuouse noble yong gentyl-

men and wymmen". Lady Margaret had a real love of literature and a great interest in men of letters. "Lady Margaret's Hall" perpetuates her memory as a patroness of learning, and the Lady Chapel in Westminster Abbey, bearing her name and constructed by order of her son, was intended as a tribute to her religious ardour.

During her latter years she lived as a nun, and when she died all England lamented her loss. Her black marble tomb with her effigy in bronze is in the Chapel of Henry VII in Westminster Abbey, London. The inscription makes reference to her services to literature and learning.

CHAPTER III

A Pilgrim in the Other World

In Italy the great pioneer writer in the spoken language was Dante Alighieri (pron. dan'tā a-lē-gē-ā'rē). He used his native Tuscan dialect with musical and sonorous effect. The scholars and writers of his time, who regarded Latin as the only real literary language, did not welcome his innovation, but sneered at him as "a poet for bakers and cobblers". After he died, efforts were made to translate his finest work into Latin.

Dante was born in Florence in the early summer of 1265 and died at Ravenna in 1321, about nineteen years before the English Chaucer first saw the light. When still a young man he suffered political persecution and was banished from his native city. His property confiscated, he became a wanderer who, in his own words, had "to climb the stairs and eat the bitter bread of strangers". The poet was a

small, dark, melancholy man who spent most of his time studying and writing.

As the author of the *Divina Commedia* (the "Divine Comedy") Dante became, and has remained, the greatest of the Italian poets. In this long and wonderful work he tells of his imagined visits to the three divisions of the Otherworld—*Inferno* or Hell, *Purgatory* and *Paradise*. We learn that his pilgrimage was made to discover the secrets regarding the fate of departed souls and was closely associated with his life-long adoration of Beatrice, who died in 1290. She was a lady whom he scarcely knew, admired from a distance and idealized. In his dreams she became the symbol of all that is beautiful and good.

The *Divina Commedia* opens with the book named *Inferno*. In his musical and melancholy verse the poet begins by telling that in the midst of life's pilgrimage he found himself in a dusky forest. As he went forward he saw a high mountain; then a leopard, a lion and a wolf came in sight. He was scared by these and other perils when he met a man who became his guide. This was no other than the ancient Latin poet Virgil, and Dante asks to be led towards the gate of St. Peter. He is greatly comforted when Virgil says he has been sent by Beatrice to conduct her lover to her celestial abode and to protect and comfort him.

Together they enter the *Inferno*, over the portal of which Dante saw inscribed:

Through me is the road to the dolorous city;
Through me is the road to the everlasting sorrows;
Through me is the road to the lost people.
Justice was the motive of my exalted maker . . .
All hope abandon ye who enter.

In the desolation within Dante sees and converses with many who are undergoing punishment in the various

divisions. These are "swiftly" characterized in the poet's concise style and yet vividly and with haunting effect. Purgatory is next entered. It is night, but the poet is glad to have escaped from the dead air and sights and thoughts that had saddened him. Then comes the dawn and the brightness of morning as Virgil and the poet reach a wide sea across which they are taken in a beautiful and lustrous boat, piloted by an angel of God. Dante meets and hears the confessions of famous men and women who await release, including those who failed to repent in the last moments of life. Some relate their sorrows:

Ah! when thou findest thee again on earth,
Said then a female soul, remember me—
Pisa Sienna was my place of birth,
The Marshes of my death. This knoweth he
Who placed upon my hand the wedding ring.

A vivid impression of a tragic life is thus conveyed in a few lines.

Beatrice is the poet's guide in Paradise, conducting him through the various spheres. In the moon are the souls of those who had not kept their monastic vows; in the planet Mercury those who for the sake of fame did noble deeds; in Venus those of lovers; in the sun those of famous theologians; in Mars those of martyrs and warrior saints, including the poet's grandfather Alighieri; in Jupiter those who were worthy administrators of justice; in Saturn those who had devoted themselves to religious contemplation; and in the regions beyond the Blessed Virgin are the great disciples and Adam. In the Empyrean heaven Dante beholds the white celestial rose formed by angels and souls, in the yellow centre of which is the sea of God's glory.

Dante's fame as a poet and mystic grew brighter and spread far after his death. His native city of Florence

begged for his ashes, but Ravenna refused to part with them. Throughout the centuries that have passed since he sang and suffered, tributes to his genius have been paid in every civilized country, and we know him to-day as one of the world's greatest poets.

CHAPTER IV

A Pioneer Scholar

Francesco Petrarca (1304-1374), known to us as Petrarch, was the great Italian pioneer in the Renaissance of learning. He was born near the town of Avignon which was not then a part of the kingdom of France. There, from 1309 till 1377, seven popes, from Clement V to Gregory XI, were in residence.

Petrarch's father desired him to be a lawyer, but before he was seventeen, the young man had resolved to devote his life to literature and learning. He and his brother ultimately entered the Church, and at Avignon Petrarch became known as a rising scholar and poet.

When he was twenty-three he fell in love with a golden-haired young woman whom he first saw in the church of St. Clara on Good Friday, April 1327. She became to him what Beatrice had been to Dante—an ideal of beauty, and for over twenty years she inspired his poetry. Even after her death he continued to write sonnets in praise of her, and the following is a translation of one of them:

Those eyes, my bright and glowing theme ere while,
That arm, those hands, that lovely foot, that face,
Whose view was wont my fancy to beguile,

And raise me high o'er all of human race;
Those golden locks that flowed in liquid grace,
Which made a Paradise of every place,
What are they? dust, insensible and vile!
And yet I live! oh grief! oh rage! oh shame!
Reft of the guiding star I loved so long,
A shipwrecked bark which storms of woe assail—
Be this the limit of my amorous song:
Quenched in my bosom is the sacred flame,
And my heart murmurs its expiring wail.

Petrarch's Latin poems lack the spontaneity and beauty of those he wrote in Italian. His chief one is an epic entitled *Africa*, the theme being the victories of the elder Scipio, who defeated Hannibal. It imitates Virgil's *Æneid* and although he was awarded the laureate crown at Rome in 1341 because he wrote this long work, little is thought of it nowadays, for it is dull, imitative and artificial.

Petrarch's fame is perpetuated by his Italian poems and his pioneer work in the Revival of Learning. In association with his friend Boccaccio, he was a collector of ancient manuscripts which had for centuries suffered from neglect. As these contained great literature, they exercised a good influence on writers, and the standard of composition was raised. In the Greek manuscripts the outlook on life was wider and more free than in mediæval Latin writings; natural emotions were frankly expressed and there was an inspiring worship of beauty. Withal, they stirred men to think. These recovered manuscripts were known as *literæ humaniores* and those who studied them were, in time, called the "Humanists". Petrarch and his friend, Boccaccio, who is dealt with in the next chapter, were the first of the "Humanists"

CHAPTER V

The First Novelist

Boccaccio (pr. bo-kat'-cho) Giovanni, the Italian scholar, was a great writer of fiction and a pioneer novelist. He was born in 1313 in the small town of Certaldo, about twenty miles distant from Florence. His father hoped he would become a business man, but during his youth he wrote a great deal of poetry and, in the end, resolved to become a literary man.

He settled in Naples during his early manhood and King Robert of that city state became his patron. There he fell in love with Maria, a lady of Royal blood and she appears in his writings under the name of Fiammetta. It was for her that he wrote a group of a hundred stories contained in his famous book *The Decameron*. These are supposed to be told in turn by ten persons during ten days, a party of this number having left Florence for a country house to escape the plague of 1348.

Many of the stories were collected from various sources; others tell of actual occurrences or are based upon them. All the stories were written in a new realistic style.

Before Boccaccio's time the popular narratives, like those of the French romances in rhyme, were concerned with the adventures of wonderful knights in conflict with supernatural beings, or with glorified national heroes. Boccaccio dealt with contemporary life and was the pioneer writer of love romances. Indeed, his *novella* (short story) gave its name to the novel. He did not make deep and elaborate studies of character. To him the manner of telling a story was of more importance than the subject. He was

an artistic writer, chiefly concerned about form and style.

Boccaccio returned to Florence in 1342 and became closely associated with Petrarch who disliked the *Decameron* style of writing. Under Petrarch's influence Boccaccio became a great enthusiast for the new learning and a collector of ancient manuscripts in Greek and Latin. It was he who brought to Italy, during his travels, the epics of the Greek poet Homer. He had become a Greek scholar and made a Latin translation of Homer's *Iliad* for his friend Petrarch, who is usually referred to as the "Instigator of the Renaissance".

In 1373 Boccaccio became the first occupant of the professorial chair founded in Florence for the study of Dante's *Divina Commedia* and he was the author of the first biography of Dante. Petrarch wrote an account of his own life. Here we have another new departure which was a feature of the Renaissance. Biography was a new thing in contemporary literature, but a revival of an old fashion which had had its origin in Greece. The love of glory, of personal fame, was an outstanding trait in the Renaissance movement. Nor was it confined to literature. In pictorial art it led to the production of portraits of outstanding men and beautiful women. When Humanism became popular and fashionable, scholars and writers were greatly honoured, while painters and sculptors were no longer regarded merely as employees but as distinguished personalities. The popes, the princes and the wealthy merchants became enthusiastic patrons of learning, literature and art.

CHAPTER VI

The Wonders of Asia

“The discovery of the world”—that is, of new sea routes and of lands previously unknown—was a most inspiring influence in the Renaissance movement. Scholars were deeply stirred by the new knowledge; churchmen realized that missionary effort had to be greatly extended; while kings, statesmen and merchants had dreams of acquiring great wealth from distant lands rich in gold and precious stones, as well as in plants reputed to be of medicinal value.

The continent of Asia was but vaguely known and a great part of it was thought to be comprised by India and the Indies—the islands of the Far East, including Sumatra and Java and even Chipangu or Zipangu (Japan). Persia, Mongolia and Cathay (northern China) were little more than names.

The chief source of mediæval knowledge regarding these distant lands was the story of the wanderings of Marco Polo, who was born in Venice in 1254. When he was a baby his father Niccolo Polo and his uncle Matteo Polo went to Asia on a trading journey. They ultimately reached the court of the famous Kubilai¹ Khan (or Kaan), the Mongol Emperor, in Cathay (China), and that monarch requested them to carry letters to the Pope whom he desired to send to his dominions a hundred missionaries to convert his people to Christianity.

In the autumn of 1271 the newly-elected Pope Gregory X considered the request of Kubilai Khan, but dispatched

¹ Also given as Kubla and Cublai; the Persian form is Qubilay and the Chinese is Hu-pi-liéh,

only two missionaries. These men were, however, so alarmed by the perils of Asia that they returned home after proceeding a comparatively short distance.

The Polos took with them on their return journey young Marco, then only about seventeen, and they went eastward by way of Armenia, Iraq (Mesopotamia), Persia and thence by slow stages to northern China. It was not until May 1275 that they reached the summer retreat of Kubilai Khan at Chandu—the Xanadu of Coleridge's poem beginning:

In Xanadu did Kubla Khan
A stately pleasure-dome decree:
Where Alph, the sacred river, ran
Through caverns measureless to man
Down to a sunless sea.

For seventeen years the Polos remained at the Court of the Great Khan, not being able to leave it, for the Oriental monarch was pleased to have Europeans near him. Marco was employed in connexion with diplomatic visits to various places, including some provinces of China and once he was sent to Burma. In the end, however, the Polos were given charge of a young princess who was to become the bride of a Persian ruler, and were ordered to convey her to her future home. The overland route was unsafe at the time owing to military operations in certain provinces and it was resolved to proceed by sea from China to the Persian Gulf. The voyage was begun early in 1292, and the route was by way of Java, Singapore, the straits of Malacca, the Nicobar Islands, Ceylon, and the western littoral of India. Over two years elapsed before the Polos delivered the princess to the Persians. The ruler she was to marry had died, and she became the bride of his son. After spending about nine months at the Persian court, the Polos set out for home by

way of Constantinople and reached Venice in 1295, after an absence of twenty-five years.

When the Polos went to their house, they found it occupied by relatives. It was believed in Venice that they themselves had long been dead. At first they were taken for impostors, for they resembled Tartars in their manners as in their attire, and mixed foreign words with their native language. It is told that they soon astonished their relatives and friends by producing a quantity of precious stones which had been sewn into their foreign garments. When clothed in the fashionable attire of the time, they were at length identified as the long-lost Polos and regarded with respect and esteem as wealthy and far-travelled men.

Some months after their arrival, war broke out between the city states of Genoa and Venice. Marco Polo became commander of a galley, but in a battle was wounded and taken prisoner. He was sent to Genoa and there he was detained but greatly honoured, many visiting him to hear his stories of his wanderings in distant lands. He was advised to prepare a written account of his experiences, and after obtaining from his father in Venice notes he had taken during the long sojourn in the East, Marco dictated his narrative to a man of letters named Rustichello, who belonged to Pisa. The original manuscript has long been lost, but a number of copies and translations survive, some partly abridged and others not without errors.

Marco Polo's narrative affords us vivid glimpses of the period of the Mongol Empire, which embraced first northern and then southern China, and is known as the Yuan dynasty of China (1260-1368). During the reign of Kubilai, Korea and Burma were seized and attacks made upon Japan.

Marco dictated glowing accounts of the wealth and splendour of the Mongol court. The summer palace in Cathay

was surrounded by gardens, parks, lakes and woods. It was built of marble and other fine stone, and the interior had dazzling decorations. Precious metals and precious stones were in great abundance. Kubilai Khan was a monarch of fabulous wealth and great power. Japan was reputed at the time to be a country rich in gold. Marco's account of it is undoubtedly exaggerated, for he tells that the royal palace had a roof of fine gold "over two fingers in thickness", and that even the floors of the chambers were of fine gold. Pearls of a rose colour had been accumulated in great abundance. "It is a rich island," he told, "so rich that no one can tell its wealth." Java is likewise referred to as being "immensely rich" and to have "all the precious spices one can think of".

Marco Polo cast a glamour over Asian lands, and for generations men dreamed of

the wealth of Ormus and of Ind,
Or where the gorgeous East, with richest hand,
Showers on her kings barbaric pearl and gold.

CHAPTER VII

Discovery of America

The exploring energy of the Renaissance was prompted partly by the new spirit of inquiry and love of adventure and partly by the necessities of trade. Daring Genoese and Portuguese ventured farther and farther south along the western coast of Africa. The Portuguese even penetrated inland believing that they could reach by way of the Senegal river the sources of the Nile and co-operate with the Christians of Abyssinia against the Moslems of North Africa.

In the East political changes were taking place which forced Mediterranean traders to search for new avenues of commerce. The Turkish conquests were blocking the ancient overland trade routes by which the produce of the East had been brought to Syria and Alexandria to be distributed along the coasts of Europe; and after the Turks took possession of Constantinople in 1453 Christian merchants and explorers could no longer venture safely into Asia. Moslem Arabs obtained a complete monopoly of Indian Ocean trade. The wealth of Ormus (Hormuz) and of Ind (India and the East Indies) enriched the Turk and his vassals, to the serious loss of Christian traders.

It was evident that a new route for Indo-European commerce had to be discovered. The Portuguese, finding Africa vaster and more difficult to penetrate than the theorists at home had supposed, were exploring farther southward along its coasts, searching for a sea route to India. Then suddenly Christopher Columbus came forward with a new and startling scheme. Convinced that the world was round, he proposed to sail across the Atlantic and reach the "wonder lands" of Eastern Asia, known as "the Indies"; including the Empire of the Great Khan and Chipangu (Japan) made famous by Marco Polo. The existence of the American Continent was not suspected. Toscanelli, a geographer of Florence, had assumed that Asia was so vast that its eastern coast and islands extended to the Atlantic and Columbus accepted his chart as authentic.

It was not, however, merely to promote trade that Columbus wished to explore a new sea route. His ambitious scheme was rooted in the crusading spirit and fortified by traditions of Plato's Atlantis and curious interpretations of the prophecies of Isaiah. He was a deeply religious man who believed that if the ends of the earth were brought into contact with

Europe, all mankind would gradually come under the influence of the Christian faith.

Christopher Columbus was born in 1435 in the north Italian sea-port of Genoa where Marco Polo had dictated the narrative of his travels, and daring mariners and explorers had their home. His father, a wool-comber, was no ordinary man. He did his utmost to have Christopher educated and was able to send him for a short period to the University of Pavia. When only fourteen years of age, he went to sea and in the years that followed, he served on trading vessels in the Mediterranean and along the eastern coasts of the Atlantic. He had many stirring experiences, for he not only went on commercial voyages, but also took part in naval expeditions and in fights with pirates. He grew up to be a tall and muscular man, and an able and resolute commander. Unlike the majority of Italians, he was of fair type, with light hair, grey eyes, and a freckled face which inclined to be ruddy. His manners were simple but dignified, and although his temper was occasionally fiery, he was of generous spirit. He was always known as a devoted student with a great thirst for knowledge.

When about thirty-five years of age Columbus settled in Lisbon, having married the daughter of a well-known navigator. His fair hair had already grown grey owing to the anxieties and hazards he had experienced. By this time he had thought out his great scheme of exploration and was assured that if he set out on a voyage across the Atlantic he would reach the Indies. He had first, however, to convince others that his scheme was practical, for he was unable, without financial aid, to procure the necessary ships and sailors. In vain he sought for support, first in Genoa, his native place, and afterwards from King John II of Portugal. Then he applied to the Spanish court of King Ferdinand

and Queen Isabella, whose marriage in 1469 had united the kingdoms of Aragon and Castile.

Many of the scholars, statesmen and mariners of the time ridiculed his scheme, while theologians charged him with false doctrines, referring to the view that the world is round as "a fable". At length, however, Columbus found a good friend in Diego de Deza, a learned Dominican friar, who advised Queen Isabella to hear Columbus and assist him. It was in large measure due to the queen that in the end Columbus was given command of three ships to set out on his voyage of discovery. He sailed from the port of Palos on Friday, 3rd August, 1492. His flag-ship was the *Santa Maria*, the largest of the vessels, the second was the *Pinta*, commanded by Martin Alonzo Pinzon, and the third, the *Niña*, was commanded by Vincente Yañez Pinzon. The course was first in a south-westerly direction towards the Canary Islands and then due west. It was on 6th September that the western course was taken from the island of Gomara. Land was not sighted until 12th October, when the ships reached the Island of Guanatani or San Salvador in the "West Indies"—so-called because of the belief that the expedition had reached a part of Asia.

During the voyage the superstitious sailors were greatly alarmed by variations of the compass and feared that they would meet with some terrible disaster. Columbus found it difficult to allay their terror and prevent the ships being turned back. The men were often dejected and sometimes threatened open defiance. When, in the end, the first island was reached, they became excited and joyous, begged Columbus's pardon, knelt before him and kissed his hands. The great explorer, richly attired in scarlet, made a ceremonial landing, accompanied by officers. He knelt on the shore, kissed the earth and offered up prayer to God. Then rising

he drew his sword, planted the royal standard and took possession of the island of San Salvador in the names of King Ferdinand and Queen Isabella. When the scared natives were encouraged to approach, they received gifts and were kindly treated. They thought that the strangers had come from the sky-world in "winged" vessels.

Columbus afterwards discovered Cuba, St. Domingo, Hayti, and other islands. On Hayti he had a fort erected and left a garrison, and then set out on his return voyage. The *Santa Maria* had been wrecked one night owing to the night-watch going to sleep during Columbus's absence on shore. The explorer had therefore to return in the *Niña*. A tempest forced him to put into the mouth of the Tagus in Portugal. He afterwards sailed to Palos. Soon after reaching it the *Pinta* also arrived. Its commander, Martin Alonzo Pinzon, thinking the *Niña* had been lost, had previously, on reaching Bayonne, written to the Royal court, announcing his discovery of unknown land across the Atlantic. For this action he fell into disgrace, and he died soon afterwards. Columbus received a great welcome and was highly honoured. The king rode with the great explorer in public and assigned him a coat of arms to which was afterwards attached the motto:

A Castilla y á Leon
Nuevo mundo dio Colon
(To Castille and Leon
Columbus gave a new world).

Columbus, in 1493, set out on a second Atlantic voyage with three large ships and fourteen smaller ones called "caravals". He discovered the Islands of Dominica, Porto Rico, &c. When he reached Hayti, he found the garrison had disappeared, and he established a fortified town which he called "Isabella". He then visited Jamaica and thence

returned to Spain. In May 1498 he set out on his third voyage with six vessels and made further discoveries, but, owing to the intrigues of his enemies, he was arrested by Francisco de Bobadilla, the governor of Spain's first New World colony, and sent home in chains. He was at once liberated by order of the court, but the only compensation he received was to be put in command of four small vessels for his fourth and last Atlantic voyage of 1502. On this occasion he cruised along Costa Rica ("Rich Coast"), heard of the civilizations of Mexico and Peru, but thought he was in proximity to the empire of the Great Khan. He heard, too, much regarding an abundance of wealth in gold and pearls. Columbus was now an old and broken man, and he returned home in 1504, after being buffeted by storms, to find that he was to be impoverished and callously neglected. Queen Isabella died, and his last hope of justice and gratitude perished with her. He himself passed away on 20th May, 1506, being then about seventy years of age. His body was first interred at a convent, then removed to a church and ultimately his bones were carried to the New World, their final resting place being in Havannah, Cuba.

Columbus died without being aware that he had discovered a new Continent which in the centuries to follow was to become populous and prosperous, and to more than realize his dream of the extension of Christian civilization. His fame as a great benefactor of mankind grows brighter with the passing of years. It is one of the ironies of history that the Continent he discovered was named America, after Amerigo Vespucci, a less famous navigator and not nearly as great a man.

CHAPTER VIII

An Explorer and Epic Hero

Vasco da Gama (1450-1524), the explorer who discovered the sea route to India, is not only a national hero of Portugal, but the hero of an epic by Portugal's greatest poet, Camoens (c. 1524-1579).

King John II of Portugal, who had rejected the proposal of Columbus to attempt to reach India by crossing the Atlantic, believed that the real route was by way of South Africa. A few years before Columbus set out on his famous voyage with the small Spanish fleet, the Portuguese navigator, Bartholomew Diaz, had sailed southward along the coast of Africa and reached in very rough weather the promontory he named "Cape of Storms". The far-seeing King John, however, had the name changed to "Cape of Good Hope". His hope was ultimately proved to be well founded.

When Columbus, on his return from his first Atlantic voyage sought refuge during stormy weather in the mouth of the Tagus, a Portuguese harbour, it was believed that he had really discovered how to reach India by sea and that Spain would capture the trade with that country. The suggestion was made that he should be assassinated, but King John rejected that wicked proposal. He was more willing to listen to the suggestion that a Portuguese expedition should be sent across the Atlantic, but, although this was seriously discussed, nothing came of it.

In 1497, the year before the third Atlantic voyage of Columbus, Vasco da Gama was placed in command of a Portuguese expedition consisting of three sloops of war and

a store ship, to sail to the Cape of Good Hope and explore the ocean beyond it. The little fleet left the harbour mouth of the Tagus on 8th July, and all went well until it approached the extremity of Africa. There fierce storms were encountered and the sailors became so wearied and so terrified that they implored the commander to turn back. Vasco da Gama sternly refused to be baffled. A plot was formed to assassinate him, but it was discovered in time, and the chief conspirators were put in irons.

After many days of wild weather, the storm suddenly ceased and the Cape of Good Hope was sighted. This promontory was doubled on 20th November, about four and a half months after leaving Portugal. A landing was made and fresh stores and water obtained for the ships, but soon after the voyage was resumed a fierce tempest drove the ships out of sight of land. For nearly a month the vessels struggled on through the unknown seas, but when at length the weather improved, the coast was again seen and the daring and determined commander set a course towards the north. As it was now the Christmas season, he named the land in sight "Terra de Natal" ("Land of Christmas"). Da Gama had sailed round South Africa and, as he subsequently found, entered the Indian Ocean. A landing was effected in January at the mouth of a great river, believed to be Delagoa Bay, in Portuguese East Africa. The crews were rested, stores were replenished, and everyone greatly cheered. On 24th February the voyage northward was resumed, and the islands off the coast of Mozambique were sighted on the first day of March. At one of the islands, Da Gama learned through interpreters that from its port Arab sea-merchants were wont to sail to Arabia and India. He and his men rejoiced greatly, realizing that the trade route to India had at length been discovered.

The Arabs resident on the island thought at first that the strangers were fellow-Moslems from Morocco. There was much consternation and alarm on finding that they were instead, Christians from Europe, who had come to threaten the Moslem monopoly of Indian Ocean trade. A night attack was planned with purpose to capture the ships and slay the intruders. Da Gama had, however, taken precautions and kept an alert watch. When the attack was launched, he not only thwarted it, but bombarded the timber-built town, which was set on fire and reduced to ashes. Among the prisoners taken were Arab pilots who were forced to conduct the fleet to Mombasa. There, too, hostility was shown. An attempt was made to cut the cables of the Portuguese vessels, but it was frustrated. The voyage northward was afterwards resumed and an Arab vessel was sighted, surprised and captured. From one of the prisoners Da Gama learned that he was near Malindi (now in Kenya), a seaport about sixty-six miles north-east of Mombasa. There he obtained the services of the pilot, Melemo Cana, who conducted the Portuguese fleet to Calicut in the Madras Presidency where lived the Hindu "King of the Sea" (Samudra Rajah). Vasco da Gama thus reached India in ten months and twelve days after leaving Lisbon.

At Calicut he had exciting experiences with the wily and treacherous "King of the Sea", but when he returned home after a lapse of two years and two months he had made it possible for Portugal to become rich and powerful by developing a new sea-borne trade. No longer had heavy duties to be paid to Moslem traders who brought to the Europeans by sea and overland routes the products of the "Indies". A fleet of Portuguese vessels could annually carry, by way of the Cape, the spices, gold and precious

stones at profits sometimes reaching from three thousand to four thousand per cent.

The "Admiral of the Eastern Seas" was the appointment made when Da Gama was honoured on his return home. He was also given by the King the hereditary title of Dom with an annual salary of 3000 Ducats.

In 1502 he returned with a powerful fleet to India, establishing trading stations en route. He afterwards remained at home for about twenty years. Then, in 1524, he was appointed viceroy of India and went out to Goa, on the Malabar coast, which had become the capital of the Portuguese colony and was for long a great trading place. There he died a few years later.

Dom Vasco da Gama's great voyage of exploration was made the theme of Portugal's national epic *Os Lusíados* ("The Lusitanians"), in English, *The Lusiads*. The poet, Luis Vaz de Camoens, was born in Lisbon in 1524 or 1525. He went to India in 1553 and began to write his epic in Goa. After a troubled and adventurous life in India, he returned home in bad health in 1570, and two years later his epic of ten cantos was published. He died in poverty in his fifty-fifth or fifty-sixth year. Camoens was the greatest poet of his time and his was the first great epic in a modern tongue that appeared in Europe. It opens with the lines:

As Armas, e os Barões assinaldos,
Que da Occidental praia Lusitana¹
Pov mares nunca d' antes navegados
Pass aram ainda alem Taprobana²

(Of arms and heroes high and celebrated,
Who from the western shores of Lusitana¹
O'er seas that ne'er before were navigated
Passed far beyond the distant Taprobana².)

¹The Roman province of Lusitania comprised nearly all Portugal and a part of Spain.

²Ceylon.

CHAPTER IX

The Conquest of Mexico

Hispaniola, the New World Empire of Spain, was confined to the West Indies until Mexico was conquered by Hernando (or Fernando) Cortez (1485-1547). He was a native of the small Spanish town of Medellin and the son of an aristocrat of moderate means. His father desired him to enter the legal profession and sent him to the University of Salamanca, but he cared little for study, preferring the life of a soldier and adventurer. He was only nineteen when he went out to the West Indies, where his kinsman Ovando was a governor, and he took part in the conquest of Cuba, serving under Diego Velasquez.

Cortez is described as a tall, somewhat slender and muscular man, who excelled in fencing and horsemanship, with large, dark eyes and a pale complexion. He was cheerful and frank, but yet a man of determined will, ambitious, brave and daring, a soldier with brains, and a born leader of men. When Velasquez became governor of Cuba, he grew somewhat jealous of Cortez, recognizing the dashing and able young officer as a possible rival. Yet when an expedition against the Aztec empire of Mexico was planned, he placed Cortez in command of it.

In 1519 Cortez set out with a fleet of eleven vessels in which there were 110 sailors, over 600 soldiers, and about 200 Indians. The artillery consisted of ten heavy guns, four lighter pieces, and there were sixteen horses. This was a small force with which to oppose the many thousands of fighting men in the Aztec Empire of Mexico.

After some preliminary skirmishing in Central America, Cortez explored the coast in the Gulf of Mexico. On making

acquaintance with the Aztecs, his first difficulty was with regard to their language, which his interpreters did not understand. He desired to get into touch with the Aztec emperor, but it was evident that his desire could not be expressed by means of gestures. Fortunately it was found, after some delay, that a female slave who had been obtained from the Tabascans of Central America was a native of Mexico and she held converse with the Aztecs, translating what they said into the Tabascan language. Then the Tabascan interpreters translated her statements into Spanish. Ultimately this young woman learned the Spanish language and acted as secretary to Cortez. She became known as Doña Marina and played an important part in the conquest of her native land, always remaining faithful to the Spaniards.

Montezuma, the Aztec emperor, was greatly alarmed by the arrival of the foreign force on his coasts and sent costly presents to prevail upon Cortez to go away. These included two large discs, one of gold representing the sun and another of silver representing the moon, worth several thousand pounds in our money, as well as smaller ornaments of gold, and a good deal of gold dust, precious stones and pearls. Cortez and his followers were greatly impressed by this display of treasure, and believing they had reached a country of fabulous wealth, became more than ever determined to conquer it.

Cortez intimated to the royal messengers that he could not leave their country until he had an interview with Montezuma, the emperor. Then after overcoming preliminary opposition, he formed an alliance with the states of the Tutonacs and the Tlascalans who had long suffered under the tyrannous rule of their Aztec overlords. Trouble meantime broke out in the Spanish ranks and after arresting the ringleaders, Cortez sent the treasure he had received to

the King of Spain, ignoring Velasquez in Cuba. Then he had his fleet destroyed, so that there might be no thought of turning back.

The Spanish artillery terrorised the Mexicans and so did the horses, the first ever seen in that part of the world, in which the only domesticated animals were dogs.

The belief spread far and wide in Mexico that the Spaniards were supernatural beings—"white gods", and that their arrival was in fulfilment of an old prophecy. One of the Aztec gods, named Quetzalcoatl (pronounced "quetzal-ko-at'-lee") had, according to one of their myths, been expelled by rival deities and departed on a great raft across the Atlantic. Before he left, he prophesied that "white gods" like himself would one day come over the ocean to conquer and rule the Aztecs.

Montezuma believed that the Spaniards were these "white gods" and permitted them to march unopposed to his capital with a force of allies. Quarters were there allotted to Cortez and his men, and no sooner was the daring Spanish leader settled in the capital than he seized Montezuma, made him acknowledge the Spanish king as his overlord and proceeded to rule the empire through him.

Velasquez, hearing of the success of Cortez, was furious to find himself ignored, and sent a force to Mexico to assert his authority. Cortez had to leave the capital and deal with this new development. He surprised and overcame the Cuban force in a night attack and prevailed upon the soldiers to join his own force.

After he returned to the capital, he had to face a great Aztec rising. Montezuma was mortally wounded when, at the request of Cortez, he endeavoured to prevail upon the rebels to submit. The Aztecs then chose a new king and, in an attempt to overcome the Spaniards, forced them to

retreat from the capital. Cortez was thus worsted for a time, but he re-organized his force and ultimately, with the aid of his allies, completely subdued the Aztecs. The whole of Mexico was then brought under Spanish rule.

In 1528 Cortez returned to Spain where he was honoured by King Charles to whom he brought much treasure in gold, silver and gems and several Aztec and Tlascalcan chiefs, including a son of Montezuma. Cortez wished to be sent back to Mexico as governor, but the King's policy was to have soldiers as conquerors and less ambitious, cooler and older men as governors. He therefore appointed Cortez as Captain-General of New Spain and the coasts of the South Seas and gave him authority to make fresh discoveries and conquests.

Cortez subsequently returned to Mexico, but was forbidden to reside in the capital. He engaged in agriculture and cattle-rearing, introduced sugar-cane and flax-growing and founded factories, and he became wealthy. When he was able to do so, he fitted out an expedition in the Pacific and discovered the gulf and peninsula of California. He returned to Spain in 1528, but although shown courtesy at the royal court, he found that his influence had evaporated. His last service to the Crown was in connexion with an expedition against Algiers, which was, however, unsuccessful. He subsequently fell into bad health and died in the sixty-third year of his age.

Cortez's fame lives as a great conqueror who destroyed the power of the Aztecs, added Mexico to the Spanish colonies and then set himself to introduce a Christian culture and a higher civilization. His letters, giving an account of his exploits, have been compared to the commentaries of Julius Cæsar, the conqueror of Gaul, whom, in some respects, he resembled.

CHAPTER X

Conquest of Peru

There is no more remarkable story in the history of Empire-building than that of the conquest of Peru by a small body of Spanish adventurers in quest of fortune. It begins with the discovery of the Pacific Ocean by Balboa, who had settled in the Spanish colony of Darien and proved himself a courageous explorer. In 1513, with a force of about 190 Spaniards and native carriers Balboa crossed the isthmus and discovered the unknown ocean beyond. He caught sight of it from the summit of a mountain which he alone climbed, his men at the time being greatly fatigued by the hot climate, while several lay ill with fevers. Balboa lifted up his hands in prayer and some of his followers "observing his transports of joy", ascended to join in "his wonder, exultation and gratitude". The poet Keats, in a famous sonnet, wrongly credited Cortez with the discovery of the Pacific:

Or like stout Cortez when with eagle eyes
He stared at the Pacific—and all his men
Look'd at each other with a wild surmise—
Silent, upon a peak in Darien.

Balboa advanced to the shore of the Gulf of St. Michael, and striding into the water up to his waist, declared that he took possession of the ocean in the name of the King of Spain. From natives in the vicinity he heard of the rich country of Peru and resolved to invade it in the following year with a larger force. He, however, fell a victim to the jealousy of a rival, who had him executed in 1517.

Several attempts were subsequently made to realize

Balboa's dream but they all failed. In 1526, however, three Spanish adventurers, Francisco Pizarro (1478-1541), the leader, Diego de Almagro and Hernando Luque, a priest, after failing in a previous attempt, crossed the isthmus with a small force, set sail in a vessel and discovered the coast of Peru. They got into touch with the natives and ascertained that gold and silver were to be obtained in considerable quantities.

Pizarro, soon afterwards, set out for Spain to announce his discovery and after considerable delay there was granted the necessary powers to invade Peru on behalf of the King, but he received only three small vessels and about 200 soldiers, including 36 horsemen, to found a new Spanish colony.

He was accompanied on his new expedition by his three brothers Ferdinand, Juan and Gonzalo. On reaching Peru in 1532, the adventurers found that a civil war was raging. The Peruvian state was governed by "incas" (lords). Atahualpa, the ruling "inca" had been declared a usurper by his brother Huascar and two factions were at war. Pizarro advanced with his force to the small town of Caxamalca, situated in the interior, and visited Atahualpa, whose army was encamped in the vicinity. Pizarro pretended that he had come as a friend and supporter and invited the monarch to visit him in the town.

When Atahualpa arrived with a force of warriors a priest informed him that he must become a Christian and submit to the King of Spain. He handed a breviary to the astonished and perplexed monarch, who disdainfully flung it away. The priest then cried out "To arms, Christians! to arms! the Word of God is insulted; avenge this profanation on these impious dogs."

Armed Spaniards in hiding rushed out, cannon and

muskets were fired and all opposition quickly overcome. The inca monarch was seized and made a prisoner and large numbers of Peruvians were slain.

Shortly after this Spanish success, Almagro arrived with reinforcements from Panama.

Atahualpa was imprisoned in a room about twenty-two feet in length and sixteen in breadth and he offered to have it filled with gold as high as he could reach if, on doing so, he were set at liberty. Pizarro consented to accept this great ransom. The "inca" accordingly issued orders to his subjects to bring in the treasure and Peruvians soon began to arrive daily with ornaments of gold until a vast pile was accumulated.

Pizarro gave orders that, except for a few specimens of curious craftsmanship which were reserved for the Spanish king, the accumulated treasure should be melted down. When this was done a fifth part was reserved for the crown and the rest was divided between the leaders of the expedition and the soldiers. Some 8000 pesos of gold, about equal in value to as many pounds sterling, fell to the share of each mounted man and about half that sum to each foot soldier. Never before, and never since, have soldiers received so great a reward for military service.

Atahualpa was not set free, but placed on trial for usurping the throne, having his brother put to death, for being an idolator and for inciting his followers to take arms against the Spaniards. He was found guilty and executed.

The whole empire of Peru was gradually conquered, but its pacification was delayed by a feud which broke out between Pizarro and Almagro. In the end Almagro was overcome in battle, taken prisoner and put to death. This was in 1538. As governor, Pizarro then proceeded to give estates to his supporters, but the partizans of Almagro

plotted to be avenged. Their opportunity came on Sunday, 26th June, 1541, Herrada, son of Almagro, leading a band of eighteen conspirators, suddenly rushed into the governor's house at mid-day and slew Pizarro. So perished the conqueror of Peru. He proved himself not only a daring adventurer, but a statesman of marked ability, for he introduced an efficient system of government in the provinces subject to his control. The capital of the inca state was Cuzco, situated about 400 miles inland. In 1535 Pizarro founded the new capital of Lima, seven miles distant from Callao, one of the best seaports on the coast. It was rapidly built and it was in the new house of the governor there that Pizarro met his death.

CHAPTER XI

The Maid of France

A famous figure in France's struggle for independence and national unity was that remarkable young peasant girl Joan of Arc (Jeanne d'Arc), who proved herself a great and inspiring leader and took decisions in military operations which on several occasions proved successful. She not only by her personal influence and daring restored the morale of the French soldiers, but caused the enemy to fear her, believing she was a witch in league with Satan. Her brief and brilliant career during her seventeenth and eighteenth years is one of the marvels of history.

When Joan was born about 1412, France was divided into a number of provinces whose rulers were nominally subject to the Crown but, in practice, more or less inde-

pendent. The force that gradually made for closer unity was the growing opposition to the English policy which had for its aim the subjection of all the provinces of France. The Duke who ruled over the province of Burgundy appealed in 1413 to Henry IV of England for military aid against the crown and received it. Two years later Henry V won the battle of Agincourt, and he subsequently married Catherine, a daughter of the half-mad French king, Charles VI, his intention being to claim the crown of France for his heir. In 1418 the Burgundians captured Paris and the king's son and heir, the young Dauphin (the future Charles VII) had to take flight to Bourges. The Burgundians, faithful to their alliance with England, disinherited the Dauphin in 1420. Two years later both the King of France and the King of England died, and the Duke of Bedford, brother of Henry V, was made Regent of France for Henry VI, then an infant.

Joan of Arc was a native of the village of Domremy on the Upper Meuse, where her father was a small farmer. In 1424 or 1425, when about thirteen years of age, and a very religious girl, she is reputed to have seen visions and heard supernatural voices which instructed her to go to the Dauphin and guide and aid him until he was crowned King of France at Rheims. During four or five years similar visions and urging commands were repeated at intervals, and at length, having been, as she told, instructed to raise the siege of Orleans, which was begun in October 1428, she left home without bidding farewell to her people, to travel to Chinon where the Dauphin was in residence. On her way she met a young man-at-arms, John of Nouillpont, whom she impressed so greatly by revelation of her mission that he vowed to lead her to the Dauphin. Other six men became her companions and she was given a horse and

male attire. Then they all travelled together by bye-ways, mostly in the dark, through country infested by hostile armed bands and at length reached Chinon in safety. When Joan was taken to the castle she was conducted into a room in which the Dauphin stood among his supporters, with no mark of rank to distinguish him, but she displayed her remarkable power by going straight forward and kneeling before him, making the request that she should be given troops to relieve Orleans. She convinced the Dauphin that she had a mission to fulfil, but as some doubted whether her powers were divinely inspired or from Satan, she was sent to Poitiers University to be questioned by Churchmen and other men of learning. Their verdict was favourable and then Joan was provided with a suit of white armour and a great horse. On her shield, which was blue, was blazoned a white dove, a scroll caught in its beak being inscribed with the words, "By command of the King of Heaven". Her white banner had on it a figure of Christ and two angels, and she wore a "sword of power" taken from a shrine.

Joan assured the Dauphin that she would drive the English army from Orleans, prophesying at the same time that she would be wounded, but not mortally. She arrived in Orleans with about 10,000 men and received a great welcome. The English were strongly "entrenched, but the marvellous maid stimulated the French to perform wonderful deeds of valour. She was wounded during an attack on a strong fort, but continued to encourage the soldiers. In the evening the retreat was sounded, but she decided that one more assault should be made, and it proved successful. The English had subsequently to retreat and Orleans was saved."

After recovering from her wound, Joan led the troops

towards Rheims. On her way she captured the fortified cities of Troyes and Chalons by simply summoning them to surrender, so great was the prestige she had acquired. The hostile garrison evacuated Rheims, which she entered in triumph, and in the great cathedral there she had the Dauphin crowned as Charles VII, King of France, on 17th July, 1429.

Joan desired to press on to Paris without delay, but the King's advisers preferred to negotiate with Burgundy and entice its Duke to break with the English and espouse the cause of Charles VII. A truce with Burgundy was arranged, but when it expired it was found that its Duke was still the ally of the enemy.

The Burgundians and the English were determined to capture Compiègne on the river Oise, to scare Paris, and Joan arrived there with a small force, believing she could defend it as successfully as she had defended Orleans. On 23rd May, 1430, she made a sortie against the Burgundians' quarter, but was beaten back. She chanced to be in the rear guard and a Burgundian archer pulled her from her horse and took her prisoner. The Burgundians afterwards sold her to the English. Joan was then taken to Rouen and placed in a dungeon where she was chained by the neck and by both hands and both feet.

In time she was put on trial before an ecclesiastical court on charges of heresy, witchcraft and blasphemy. The case went on for five months and one day when questioned regarding her visions and the voices she had heard, she prophesied that within seven years the English would lose all France. She also foretold that the Burgundians would cease to be the allies of the enemy.

The long trial wore down Joan and she was prevailed upon in the end to sign a document in which she was made

to confess to heresy and witchcraft. At first it was the understanding that she would be imprisoned for life, but in the end she was condemned to be burned at the stake. Her execution took place in the market-place of Rouen on 30th May, 1431.

About a quarter of a century later, her case was retried by a court which solemnly declared her innocence. The "Maid of France", who had long been regarded as a national heroine and martyr, was canonized by Pope Pius X on April 11th, 1909, with solemn ceremonial in St. Peter's at Rome.

CHAPTER XII

Christianity and Politics

Great social and political changes accompanied the Renaissance movement. The theory of the unity of all Christendom under the Holy Roman Empire gradually shrank into the background before a growing sense of nationality and each of the various kingdoms became more and more independent of outside control, setting up as rivals for power.

Spain had been divided into two kingdoms until nearly the close of the 15th century and these were united by the marriage of King Ferdinand of Aragon and Queen Isabella of Castille. The flame of national feeling was intensified by the war against the intruding Moors and their ultimate expulsion from their dominion of Granada which completed the union of Spain. In France the various Duchies were welded together under centralized control and in Germany

national feeling led gradually to the formation of a strong confederation, the various princes retaining their independence but co-operating in international affairs. The Tudor rulers of England formed a despotic government in which Parliament was of growing importance, but Italy remained divided into a number of small independent city states, the chief of which were Rome, Naples, Florence, Milan and Venice.

One of the results of the growth of national independence was the development of diplomacy, the aim of which was to make political influence felt without recourse to war and to formulate those understandings and agreements between nations which gave origin to the idea of the "balance of power". A diplomatist was not necessarily influenced by high moral principles. He had an end to gain and might adopt any means to achieve success. His duty might be "to lie abroad", as Bishop Stubbs has put it, "for the good of his country".

The outstanding exponent of this new theory of statecraft, in which Christian principles might be ignored, was Nicolo Machiavelli (1469-1527), a native of Florence. He was for a time a prominent politician in his native Republic and a member of the free party which opposed the dictators of the Medicis, a family of wealthy merchants who had become very influential. For a time the Medicis were banished, but when they returned to power Machiavelli was degraded and suffered at their hands.

When he was forced to retire from public life after being chancellor of Florence and taking part in important diplomatic missions, he became a historian and a writer on statecraft. His best known work is *Il Principe* (*The Prince*), a study of the founding and governing of a state. In it he laid down the principles of political success, showing how a ruler

could maintain his power by disregarding Christian morals. He held that it was safer for a prince to be feared than to be loved, contending that he ought not to keep his word except when he could do so without injury to himself. "It is always easy," he wrote, "to justify a breach of faith. . . . Men are generally so simple and so weak that he who wishes to deceive easily finds dupes. . . . Let it be a prince's chief care to maintain his authority; the means he employs, be they what they may, will for this purpose always appear honourable and meet applause. The vulgar are ever caught by appearances and judge only by the event. And as the world is chiefly composed of such as are called the vulgar, the voice of the few is seldom or never heard or regarded. . . . There is a prince now alive (whose name it may not be proper to mention) who ever preaches the doctrines of peace and good faith; but if he had observed either the one or the other, he would long ago have lost both his reputation and dominions." Machiavelli held that honesty did not enter into politics at all. "Honest slaves," he wrote, "are always slaves; good men are always paupers." He selected as his ideal Prince Cesare Borgia because he was successful and for no other reason.

As a historian Machiavelli was undoubtedly a great pioneer in the scientific method. His "History of Florence" raised the writing of history from mere chronicle writing to the study of motives and movements. He was an exponent of the new spirit of criticism which originated in the individualist movement of the Renaissance. In his books on Livy, he investigated the causes of the power of ancient Rome and the obstacles which prevented other states from achieving similar success. He also wrote three comedies in which the characterization was vivid and humour blended with satire; his poems were more vigorous than artistic. After his death

his writings were condemned as diabolical, being opposed to Christian ethics. In his *Faustus*, Marlowe, the English poet, makes the ghost of Machiavelli appear and declare:

I count religion but a childish toy,
And hold there is no sin but ignorance.

Machiavelli was, however, the first to commit to writing in his "The Prince" those principles of government which others had reduced to practice in his time.

CHAPTER XIII

A New Era in Art

During the Middle Ages the art of the painter was concerned chiefly with illustrating religious ideas and Biblical stories for the benefit of the masses of illiterate people. The subjects were regarded as more important than the manner of treatment. Colours were used symbolically—that is, each colour was reputed to have a meaning: red, for instance, symbolized faith; white, purity and holiness; blue, faith and truth; green, hope; yellow, fruitfulness and increase of faith; violet, passion and suffering; and grey, humility; while combinations of certain colours were significant, red and black being associated with Satan and red and white with the heavenly regions.

Formalism characterized the draughtsmanship, "wooden" and expressionless saints and angels being painted against backgrounds of gold. The favoured subjects were gloomy, indeed, such as the visions of purgatory and hell. Art reflected the pessimism of the time; men found comfort

in the belief that the world would soon come to an end. "The sense of decay," as Lord Acton has put it, "was upon them".

With the Renaissance came the worship of beauty for its own sake. Artists and sculptors were inspired to new effort by the products of ancient Greece, and religious art then gradually rose to a high level of excellence.

The new era in pictorial art began in Florence with Giotto (pronounced "jott'-o") who was born in 1276 and died in 1336. He depicted human beings in realistic fashion, making them appear life-like, expressing real emotions and moods which could be felt and understood. There could be no doubt as to what he wished to convey. His pictures were dramatic; he could present a situation as in a play or a story. In composition and draughtsmanship he elevated the art of painting, his free, flowing lines and bright, realistic colours inspiring real aesthetic pleasure. He was, withal, a sculptor and architect and he wrote verse. His personal friends included Dante, Petrarch and Boccaccio and he was known and loved as a vivacious and witty man. He painted a portrait of Dante, which reveals much to us.

Another pioneer of the new school was Filippo Lippi (1400-1469) whose name means "Philip son of Philip"; he is also referred to as Fra Filippo or Fra Lippo Lippi, "Fra" signifying "Friar". Our poet, Robert Browning, has in a dramatic narrative given a characteristic treatment of the traditions that cling to the memory of this famous painter. The monastic critics, who favoured symbolic treatment of religious subjects, are made to say of the friar's compositions,

How? what's here?

Quite from the mark of painting, bless us all!

Faces, arms, legs, and bodies like the true

As much as pea and pea! it's devil's game!
Your business is not to catch men with show,
With homage to the perishable clay . . .
Make them forget there's such a thing as flesh,
Your business is to paint the souls of men.

Fra Lippo Lippi was one of the first to introduce landscape backgrounds and to paint figures in the play of light and shadow. He expressed with spiritual feeling, poetic charm and a sense of colour the comfortable beliefs of his time and was attractive rather than profound.

Giotto's real successor was Tomaso di San Giovanni, called Masaccio (1400-1443), a great Florentine. In the Sistine Chapel in the Vatican, Rome, is seen his masterpiece, the *Expulsion from Paradise* of Adam and Eve, a living and dramatic presentation of human beings in shame and grief; it is a spontaneous and appealing work of high artistic value. Later masters were more correct in detail, but not necessarily more inspiring.

Botticelli, whose real name was Sandro Filipepi (1444-1510) studied under Fra Lippo Lippi. He was strongly influenced by Greek art, but mainly through ancient Roman copies. The studies he made of the human figure, even when faulty in drawing, are infused with life and movement and continue to make appeal on that account. His subjects were religious, allegorical and political. But he was less concerned with his theme than the treatment of it. His rhythms of line and music of movement are often quite lyrical. Indeed, his greatest works are masterpieces of linear design—such as *The Birth of Venus* (*Venus Rising from the Sea*), *Spring* (*Realm of Venus*), the *Coronation of Venus* (in the Sistine Chapel, St. Peter's, Rome) and his exquisite *Madonna* in Florence Gallery.

In Botticelli's work we have vividly illustrated that

statue of Julius II which was set up at Bologna, but was destroyed in 1511 when the people of that city were in rebellion against the Pope.

The work of decorating the vaulted ceiling in the Sistine Chapel was resumed. It was a gigantic task, for the space under treatment was about 150 feet in length and about 50 feet in breadth. The entire painting was carried out unaided by the artist. He illustrated the outstanding incidents in the Old Testament, depicting the acts of Creation, the Garden of Eden and the fall and expulsion of Adam and Eve and dramatic scenes of the Deluge; he presented the various great prophets and other notable Biblical characters, including David and other human ancestors of Christ; he also included a number of symbolic figures. The whole work is sublime in conception and execution. A great unveiling ceremony took place on All Saints' Day, 1512.

Pope Julius II, the patron and admirer of Michelangelo, died in the following year and his successor, Leo X, a native of Florence, preferred the amiable young painter, Raphael.

For the next pope, Clement VII, Michelangelo acted as architect of a chapel in the church of San Lorenzo for which he produced six great sculptures of the Pope's ancestors and relatives. Paul III, who succeeded Clement VII, employed Michelangelo to paint in the Sistine Chapel a vast study of *The Last Judgment*, in which there are about 200 figures. For the same Pope he painted in the newly-constructed Pauline Chapel his last paintings, *The Conversion of St. Paul* and *The Crucifixion of St. Peter*.

When he was in his seventy-second year Michelangelo was appointed chief architect of St. Peter's Cathedral, Rome, the cupola of which is a great memorial to his genius. The remainder of his life was devoted to the work of

constructing the famous cathedral. His death took place in his eighty-eighth year. Michelangelo was not only a great sculptor, painter and architect but also a poet, and certain of his sonnets have been translated by Wordsworth. In temperament he somewhat resembled our Thomas Carlyle.

Raphael Sanzio d'Urbino (1483-1520) was the son of Giovanni Santi, the painter, and a native of Urbino. He became a famous exponent of the beautiful in painting and proved himself a master of composition. Although not as original an artist as Leonardo or Michelangelo, by both of whom he was influenced, he was undoubtedly a genius in his own particular sphere. His work is instinct with the spirit of classical culture and he interpreted the spiritual longings and ideals of the new age. In his work we find the love of humanity combined with devotion to feminine beauty and the sacredness of motherhood. He painted about a hundred and twenty Madonnas which have brought him fame in every country in Europe. Browning refers to "Raphael of the dear Madonnas" in one of his poems and mentions some:

Her, San Sisto names, and Her, Foligno,
Her, that visits Florence in a vision,
Her that's left with lilies in the Louvre—
Seen by us and all the world in circle.

Pope Julius II in 1508 employed Raphael at the Vatican, and Pope Leo X not only continued his services in decorating walls and ceilings but preferred him to Michelangelo. It was for Leo X that he prepared the famous cartoons for tapestries, illustrating outstanding features in the history of the Christian Church. Seven of these cartoons are in the South Kensington museum, London. Raphael's portraits number about eight and include those of Julius II and Leo X which are preserved in Florence. The final work of

Raphael, which was left unfinished, is *The Transfiguration of Christ*, and it is in the Vatican. He died at Rome of a fever at the age of thirty-seven and was buried in the Pantheon.

CHAPTER XVI

Popular Epic Poets

Italian literature suffered neglect for a century after the passing of Petrarch, the spell of the ancient classics, glorified by the Humanists, proving so potent that the native Muse was suppressed. Then the creative spirit began once again to stir young writers of the living language. There appeared in a single family in Florence no fewer than three poets, the youngest and most notable of whom was Luigi Pulci (1431-1487), the author of *Morgante Maggiore*, a romantic poem, veined with banter and satire, the first canto of which has been made familiar to English readers by Lord Byron's translation. This poem and the later poem *Orlando Innamorato* by Matteo Maria Bojardo (1434-1494) "suggested", as Byron has written, "the style and story of Ariosto".

Ludovico Ariosto (1474-1533), one of Italy's most famous poets, was a native of Reggio and a member of an aristocratic family. His father wished him to study law, but the call of literature proved so strong that the young man could not resist it. He wrote comedies, sonnets and lyrics, but after his father died in 1500, he inherited so little money that he had to enter the service of Cardinal Ippolito d'Este as a secretary. About 1505 he began to write his long epic poem *Orlando Furioso* and it was not

until eleven years had passed that he finally finished it. His first edition, issued in 1516, consisted of forty-six cantos and 38,648 lines. It was an immediate success. The cardinal, who was a mathematician, sneered at it, saying "Messer Ludovico, dove mai avete trovate tante fanfaluche?" ("Master Louis, where have you picked up so many trifles?").

Ariosto was shown favour by Alphonso I of Ferrara who, however, employed him in the unpoetic task of suppressing a rebellious province of the Duchy. A story told in this connexion is that a troop of banditti refused to attack him when they learned he was the author of *Orlando Furioso*. A subsequent appointment, which was more congenial to him, was to superintend a new theatre erected by the ruler of Ferrara. In this work he was engaged until he died, after enjoying fame as "the Homer of Ferrara".

The *Orlando Furioso*, which has been translated into many languages, deals with the heroes and ladies at the court of Charlemagne (742-814), the King of the Franks, who became Emperor of the West. Legend rather than history is drawn upon and the warfare in the poem is that of a fabulous invasion of France by the Saracens. The hero Orlando ultimately becomes mad through his passionate love for the beautiful lady Angelica, but this is only an episode in the long story. In composing his masterpiece Ariosto dispensed with accepted rules regarding form and treatment, and there is little unity of action. He took over Bojardo's hero Orlando (Roland) and his great poem continues the narrative of *Orlando Innamorato*. Other heroes are introduced and their adventures and amours become of predominating interest and then are abruptly dropped. The poem itself concludes abruptly, giving the impression of being a lengthy fragment. *Orlando Furioso* is really a

group of poems. There is, however, unity of theme—the great war between the Christians and the Moslem Saracens. Courage is the predominating note. The whole poem, although without real beginning or end, is richly poetic, and imaginative, with delicate sentiment and beautiful imagery. The technique is exquisite. There is withal in many passages a bantering note. Ariosto was a born wit, and sometimes he seems to smile when most shrewd and reflective; at other times he is frankly amusing. Byron in his *Don Juan* appears to have imitated Ariosto, but lacks his delicacy of touch and whimsical charm.

Another great Italian poet of the Renaissance was Torquato Tasso (1544–1595), the son of the poet Bernardo Tasso (1493–1569), author of the epic *Amadis of Gaul*. He was born in Sorrento and after studying at various centres entered the University of Padua as a law student. His father remonstrated with him for writing verse, but he composed his epic *Rinaldo*, consisting of twelve cantos, when only seventeen years of age. The elder Tasso then recognized that he had a son who was a greater poet than himself. At twenty-one Torquato entered the service of Cardinal Luigi d'Este and eight years later produced his *Aminta* which brought him fame. He had already begun his great epic *Gierusalemme Liberata* (*Jerusalem Delivered*) on which he worked for sixteen years. He composed rapidly but spent much time in revising and polishing his lines. At intervals he wrote lyrics, dramatic pieces and hundreds of sonnets. The Cardinal introduced him to the Court of his brother Alphonso II, ruler of the petty state of Ferrara, and grandson of Alphonso I, the patron of Ariosto. For about six years he was in high favour. Then came serious and distressing trouble which led to his confinement in the Hospital of Sant' Anna, a lunatic asylum. The poet was a

man of irascible temper and ultimately gave offence by the violence of his language and actions. It appears, however, that the chief reason for his suddenly ceasing to be a favoured courtier was that he became involved in political intrigues with rival states. It is uncertain whether there is any truth in the story that he also desired to marry Alphonso's sister. A tradition to that effect gained currency. Some have blamed Alphonso for all the trouble; others have regarded Tasso as the worst offender. Byron, in his *Childe Harold's Pilgrimage* (Canto IV, xxxvi-xxxix) accepted the view that the poet was a victim of injustice and tyranny:

And Tasso is their glory and their shame—
Hark to his strain! and then survey his cell!
And see how dearly earned Torquato's fame,
And where Alfonso bade his poet dwell:
The miserable Despot could not quell
The insulted mind he sought to quench, and blend
With the surrounding maniacs . . .

For seven years and four months the poet remained a prisoner. After the first two years, however, his confinement became less rigorous. His fits of mental trouble, some believe, were mainly due to the terrible strain caused by his solitude and the consciousness of his disgrace. In the end he was set at liberty in July 1586 owing to the intervention of Vincenzo Gonzaga, prince of Mantua, who married Alphonso's sister. During the remaining years of his life he resided sometimes in Naples and sometimes in Rome, and he had distressing experiences owing to the lack of money. At length he became the guest of Cardinal Cintio Aldobrandini and it was arranged to honour him in Rome by crowning him, like Petrarch, with the poetic wreath. He died, however, a few days before the intended ceremony, on 25th April, 1595, aged fifty-one years. His funeral was

attended by aristocrats and high ecclesiastics and the laurels he was denied during life were freely displayed in the sad last ceremony.

During Torquato's imprisonment his great epic *Jerusalem Delivered* was published without his knowledge or authority from an imperfect manuscript copy. It was an immediate success and ran through a number of editions in a few months. His theme was the crusades, during which Christians and Moslems fought for possession of the Holy Land. He confined his narrative to the year 1099, covering a period of only forty days. The crusaders, who had been fighting for two years, assembled in the plains of Tortosa and marched towards Jerusalem, which they captured after a siege of eight days. Then came the victory over the Sultan of Egypt at Ascalon and the establishment of the Christian Kingdom of Jerusalem over which Godfrey of Boulogne reigned for about twelve months.

In his epic Tasso not only struck the heroic note, but introduced the love element. An atmosphere of moral grandeur distinguishes *Jerusalem Delivered* from Ariosto's epic, as do also its stately sublimity and eloquence. Withal Tasso's melodious verse, with its many lyrical passages, has ever made popular appeal. Italians of all classes find Tasso the most musical of poets.

When the epic was first published the admirers of Ariosto's *Orlando Furioso* were highly critical and even fanatically abusive. The opposing literary factions became known as the Tassisti and the Ariostisti. But the fame of both poets has survived and, as W. H. Prescott says, "sheds a lustre over the Italian poetry of the sixteenth century like that reflected by Dante and Petrarch upon the fourteenth."

CHAPTER XVII

Pioneers of Science

There was little thought of progress in the Middle Ages, the belief being general that the world would soon come to an end. Scientific inquiry was discouraged, and was confused with the practice of magic, which had decided irreligious tendencies and consequently came under the ban of the Church, and the Church at the time represented the people as a whole, with the exception of those studious and inquiring men who were usually regarded as "heretics" because they advanced theories that seemed to be opposed to the orthodox viewpoint—the fashionable ideas of the time. The sincere but narrow-minded churchmen failed to realize that there was Divine revelation in the discovery of the secrets of nature or that a fuller knowledge of the mysteries of the Universe would inspire that deeper reverence which was to be expressed, for instance, in the poem *Night Thoughts* by Edward Young (1684–1765):

Devotion! daughter of Astronomy!
An undevout astronomer is mad.
True; all things speak a God . . .

"The stars call thee back," cried Young to the unbeliever, confessing, himself, of the starry system:

'Tis elder Scripture, writ by God's own hand:
Scripture authentic! uncorrupt by man.

"It is after all only in the most recent times," says a writer on the mediæval attitude towards research, "the idea has begun to die out that Christianity and scientific research are antagonistic."

An early exponent of the spirit of scientific inquiry which was to become a feature of the Renaissance was Roger Bacon, an English monk, born about 1214 near Ilchester, Somersetshire, who died at Oxford in 1294. He was a distinguished student at Oxford and Paris and became a member of the Franciscan Order at Oxford. His researches in chemistry, physics and the science of mathematics were combined with the study of astrology and he was accused of the practice of Black Magic and therefore of being in league with the devil. He was sent to Paris and kept in confinement, not being released for about ten years. After a brief spell of liberty, he was again imprisoned. His work *Opus Majus* was regarded as heretical because of his views with regard to the relation of scientific research to religion. He appears to have had a knowledge of the principle of the telescope, he made spectacles, was a wonderful chemist and had a knowledge of gunpowder which, some think, he really invented. Withal, he discovered errors in the Calendar.

A later "heretic" was Nicolas Copernicus (1474-1543), a native of Thorn, then in Poland. From 1500 till 1505 he taught mathematics and astronomy at Rome, after which he went to Prussia. He completed in 1530 his great work *De Orbium Cœlestium Revolutionibus* (*On the Revolution of the Celestial Orbs*) but it was not published until shortly before his death. His new theory of the Universe is of the greatest importance in the history of scientific research. But it was regarded as "Satanic" in his day.

The orthodox astronomical system of the Middle Ages was "the Ptolemaic", called after Ptolemy, the second century astronomer of Alexandria, Egypt. It regarded the earth as the centre of the Universe, round which revolved the heavenly bodies—the sun, moon and planets. The apparent motions of these were supposed to be caused by various

spheres of space, which were supposed to whirl completely round. Beyond the spheres that caused the movements of the sun, moon and planets was "the starry sphere". In the course of time other spheres were added to those of Ptolemy until there were ten in all. Shakespeare writes of meteorites as "stars starting from their spheres" and in everyday language we refer to individuals who are "in their spheres" or "out of their spheres". The belief in spheres lingered on till the seventeenth century and Protestants as well as Catholics ridiculed those who believed that the earth revolved around the sun.

The new theory of Copernicus, which discredited the accepted view that the earth was the pivot of the Universe, was supposed to strike at the fundamental beliefs of the Church. Some had it that Copernicus and his followers were "brain sick" and others made merry at their expense, declaring them to be "preposterous humorists".

CHAPTER XVIII

The State of Utopia

During the Renaissance some writers, who had dreams of reforming society, urged their views by composing works of fiction in which they described ideal states. Two of them were Englishmen—Sir Thomas More, the author of *Utopia* and Lord Bacon, author of *The New Atlantis*, and one was the Frenchman, Montaigne, the author of an essay on *The Cannibals*.

Sir Thomas More was born in Cheapside, London, during the reign of Edward IV, either on 7th February, 1477, or

6th February, 1478, and he was beheaded for treason in 1535 during the reign of Henry VIII. After being at Oxford for a couple of years, More studied law in London and was called to the Bar in 1500. He subsequently became a member of Parliament and first rose into prominence by taking a strong stand in reducing a grant of money asked for by Henry VII. In the reign of Henry VIII he was appointed an under-sheriff of London. He took part in diplomatic missions to the Continent and King Henry VIII made him a Privy Councillor and knighted him in 1521. Two years later he was chosen as Speaker of the House of Commons and in 1529 he succeeded Cardinal Wolsey as Chancellor of England. He took a prominent part as a Humanist in promoting the new learning and was in turn High Steward of the Universities of Oxford and Cambridge.

More resigned the Chancellorship in May 1532, being strongly opposed to King Henry's attacks on Papal Supremacy. In the following year he declined to attend the marriage of the King to Anne Boleyn, and when he refused to take the oath for the Act of Succession and Supremacy, he was arrested on a charge of high treason. His trial took place in July 1535, and being found guilty he was condemned to death and beheaded in the Tower of London.

More's *Utopia*, composed in Latin, was finished about three years after Machiavelli's *The Prince* and first published at Louvain in 1516. It was not translated into English until 1551.

This famous work was intended as a satire on existing institutions and told of an ideal state in an island of the New World, supposed to have been discovered by a friend of the explorer Amerigo Vespucci. The inhabitants of this island, called Utopia, were presented as a people living in

prosperity and happiness. Their state, a communistic one, was governed by magistrates who were elected annually.

No one was allowed to be idle, but the working day was one of only six hours. Eight hours were allotted for sleep and the leisure hours were devoted to reading, music, or games. All scholars were exempted from manual labour. Bondsmen or slaves performed the unpleasant work. There was no money, and gold and silver were of less value than iron, while pearls and gems were regarded as mere playthings for children. The laws were few and simple and as they were understood by everyone, there was no need for lawyers. War was hated and when a campaign was forced upon the Utopians, they preferred to engage mercenaries. Religious toleration prevailed, the law permitting each citizen to profess whatever religion he pleased. Atheists, however, could not hold any public office and they were prevented from expressing their views to the common people. No images were permitted in the churches. The priests had care of education.

In this remarkable work, More not only told a story which proved fascinating in his day, but contained much criticism of the economic and social conditions of the England of his time. He satirized court life in his own country and on the Continent. His aim was not to present a democratic state but rather one governed by the intellectuals. The fact that the work was composed in Latin proves that his appeal was not to the common people, but rather to the Humanists. *Utopia* was really a product of the Renaissance, when men's minds, stirred by new discoveries, dreamed of new worlds and new institutions—in short, of Utopias. The terms "Utopia" and "Utopian" have long been applied to conceptions of idealistic but impracticable moral and social conditions—to imaginary states in which everything is

perfect. Although More in his book advocated religious toleration, as an English judge he regarded heresy as anti-social and inflicted punishments according to the law of the land. His own life ended in tragedy because he was firmly opposed to the new law which recognized a layman, in the person of King Henry VIII, as Head of the Church.

CHAPTER XIX

The Simple Life

The Greek poet Hesiod dreamed of a Golden Age which existed when the world was young, and mortals

Lived like the gods with calm, untroubled mind
Free from the toil and anguish of our kind . . .
Pleased with earth's unbought feasts; all ills removed,
Wealthy in flocks . . .

Michel Eyquem de Montaigne (1533-1592), the French essayist, who was one of the early disciples of the Renaissance in his native land, dreamed of similar conditions of life in a part of the New World. His argument was that the simple life of the savage was greatly to be preferred to the civilization of Europe by which men were, according to his view, kept in a state of semi-slavery. In his essay entitled *The Cannibals* he pretends to re-tell the unadorned story of a man who had lived for ten or twelve years among the savages of Brazil ("Antarctic France"). Montaigne insisted that these primitive people were "savage" or "wild" only in the sense that excellent uncultivated fruits are "wild". In short, they were "natural men"; as wild

fruits are better than those cultivated by artifice, so were the "natural men" possessed of qualities superior to those of civilized men. They were, he held, less remote from original simplicity than the Europeans, being governed by the laws of nature, instead of by laws of human origin.

Montaigne recalled that Plato, the Greek philosopher, had pictured a people of an ideal state in his myth of the *Lost Atlantis*. He expressed regret that Plato did not know of the greater wonders of the New World when writing this myth or his dream of the ideal *Republic*. The savages of Brazil lived more happily than any highly cultured people. They had "no commerce, no knowledge of letters, no science of numbers, no name of magistrate nor political superiority, no use of service, no riches or poverty, no contracts, no successions, no dividends, no properties and no employments except those of leisure, no respect of kindred and equal regard for all, no clothing, no agriculture, no metal, no use of corn or of wine". These people were quite without knowledge of "the very words that signify lying, treachery, dissimulation, avarice, envy, detraction, or pardon". Plato would have found that, compared with the conditions under which the savages lived, those prevailing in his *Republic* were far short of perfection. For, adds the essayist in reference to the Brazilians, quoting from Virgil's *Georgics* (II, 20), "These were the manners first taught by Nature."

Montaigne makes his imaginary informant relate that the cannibals enjoyed a pleasant climate and sickness was extremely rare among them. Nor were any of them "either paralytic, blear-eyed, toothless or bent with age." Food was plentiful and the cooking very simple. The houses were long and commodious; each was like a village, accommodating two or three hundred people. Hammocks were

used as beds. The savages rose with the sun and then partook of the single meal of the day. A favoured drink, of which they partook freely, was of the colour of claret and prepared from a certain root. It was "nothing heady but very comfortable to the stomach". Dancing was a popular recreation. The young men went out to the woods and hills to hunt with their bows and arrows and the chief occupation of the women was the preparation of the popular beverage. Each morning one of the elders walked through the long house preaching and giving good advice. He often repeated the same sentences, his principal theme being "valour towards their enemies and love towards their wives".

Wars with inland peoples were frequent, but they were waged chiefly in "jealousy of valour". The brave man was most highly esteemed. He might prove a victor or suffer defeat, but yet be a model of courage. "There are defeats more triumphant than victories." Montaigne tells that prisoners were often eaten, and he quotes a song by one who mocked his enemies "in word and gesture" till he was slain. His supposed translation runs:

"Come all and dine upon me and welcome. You will eat your own fathers and grandfathers whose flesh has nourished me. My muscles and flesh and veins are your own. Poor silly souls, you little think that your ancestors' limbs are in mine. When you eat me, you will find the taste of your own flesh."

Revolted as cannibalism may have been to his readers, Montaigne's argument was that the eating of men when dead was not so bad as the enslaving of living men in European society. He tells of three of the Brazilian savages paying a visit to Rouen and expressing surprise to see "men full and crammed with all manner of commodities,

whilst others were begging at their doors, lean and half-starved with hunger and poverty", and they wondered that these sufferers "did not take the others by the throat, or set fire to their houses".

Shakespeare was one of the early English admirers of Montaigne and borrowed from him. In the first scene of the second Act of *The Tempest*, Gonzalo imagines an ideal commonwealth on the island, saying:

I' the commonwealth I would by contraries
Execute all things: for no kind of traffic
Would I admit; no name of magistrate:
Letters should not be known; riches, poverty
And use of service none; contract, succession,
Bourn, bound of land, tilth, vineyard, none;
No use of metal, corn, or wine, or oil:
No occupation, all men idle, all . . .
All things in common nature should produce
Without sweat or endeavour: treason, felony,
Sword, pike, knife, gun, or need of any engine
Would I not have; but nature should bring forth,
Of its own kind, all foison, all abundance,
To feed my innocent people.

Montaigne was a pioneer in the personal style of writing, giving expression to his own opinions and feelings and taking his readers into his confidence. He thus asserted the right of the individual to think for himself, to be a critic of life and human behaviour.

His publications were coldly received in his time. It was not, indeed, until the seventeenth century that his genius was given wide recognition. Montaigne's essays have since been among the most popular literary works in the French language.

CHAPTER XX

Great Inventions Foreshadowed

"New Atlantis", the ideal state imagined by Lord Bacon (1562-1626), the great English philosopher and pioneer of the inductive method in science, was, like "Utopia", situated in the New World discovered by Columbus. The story unfolded regarding it resembles somewhat the visionary fiction of Jules Verne and H. G. Wells because it tells of some inventions and discoveries which have in our own time become matters of fact.

Bacon (Baron Verulam, Viscount St. Albans) was a true son of the Renaissance in his desire for freedom from traditional habits of thinking that hindered research, and in advocating a "return to Nature" for the patient and intelligent investigation of its laws and teaching. His system is set forth in his great work *Novum Organum* ("new instrument"), and in his ideal state that system obtains, the scientists occupying positions of dignity and influence.

Bacon's father, Sir Nicholas Bacon, was Keeper of the Great Seal during the reign of Queen Elizabeth. As a boy the future scientist lived at the Royal Court and he was so interesting and precocious that the queen took a fancy to him and was wont to refer to him as "my young Lord Keeper". He went to Cambridge University when only thirteen years of age and about twelve months later was taken to Paris by the English ambassador, and there he remained until seventeen. His father's death caused him to return to London, where he entered Gray's Inn as a law student. Early in the reign of James I he was promoted first to be one of the King's Learned Counsel, and then

appointed Solicitor General. In 1613 he rose to the post of Attorney General. Four years later he was made Lord Keeper of the Great Seal and in 1618 he became Lord Chancellor of England.

Three years later Bacon fell into disgrace. A committee of the House of Commons investigated complaints of abuses in the Courts of Chancery and Justice and he was accused of bribery, corruption and other illegal practices. He made full confession of his guilt to the King, saying: "I may be frail and partake of the abuses of the time." In the end he was fined £40,000 and sentenced to be imprisoned in the Tower of London during His Majesty's pleasure. The fine was never paid, and he was released after a brief period of detention.

Bacon devoted the five remaining years of his life to literary and scientific work. His *Novum Organum* had appeared in the year before his fall, and *The New Atlantis* was published in 1627.

His ideal island state was supposed to be situated somewhere in the Pacific. It was reached, according to Bacon's narrative, by sea-farers who set out from Peru and were driven hither and thither by stormy weather. They found there a highly civilized and progressive people, who were mainly Christians, a small minority being Jews.

In writing of this wonderful state Bacon did not have much to say regarding its laws and customs, but he refers to the incorruptibility of its officials. He had no sympathy with the Utopian communism of More. The system of government in the New Atlantis was monarchical and the laws, as laid down by King Solamona (Solomon) nineteen hundred years earlier, were so beneficial for the morals, health and intellectual advancement of the people and the welfare of the state that they remained unaltered. It was a

self-contained state which did not require to trade with any other.

The "eye of the kingdom" was "Solomon's House", a centre of scientific research. There wonderful discoveries had been made and wonderful inventions introduced. Bacon anticipated some of the inventions of modern times. His sage tells that they dealt with sounds, making them small and great as is now done by the modern microphone; that they imitated articulate sounds, a vision of the gramophone; that they had "helps which set to the ear do further the hearing greatly"; "artificial echos reflecting the voice many times"—evidently "loud speakers"; tubes for carrying sounds not merely in straight lines, but in any direction—almost an anticipation of the telephone; "ships and boats for going under water"—submarines; "perpetual motions"—still a dream; projectiles with wheels—the torpedo; and "new mixtures and compositions of gunpowder"—a hint of modern explosives. Surgeons in the wonderful island state removed organs from the body—an astonishing suggestion in Bacon's day, although a commonplace in our own. The sage who revealed the wonders of "Solomon's House" gave voice to other prophecies. He told that "we imitate flights of birds" and "we have some degrees of flying in the air"—a dream of the aeroplane and airship. In the "mathematical house" were a great variety of instruments for specialists in geometry and astronomy. There, too, were held conferences of scientists.

Bacon thus dreamed of the modern laboratories and the modern learned societies. Those scientists who came after him perceived the wisdom of his suggestion. It was first made fruitful by the formation in 1645 of the "Invisible College", the members of which, co-operating with others, began to meet periodically at Oxford.

In 1662, thirty-six years after Bacon's death, there came into existence "The Royal Society of London for improving Natural Knowledge", one of the founders of which, Robert Boyle, chemist and physicist, referred to Bacon as the originator of the idea. When in 1799 the Royal Institution, with its laboratories, was founded in London by a group of fellows of the Royal Society, Bacon's aim was further advanced. His ideal of the state-endowed "Solomon's House" for purposes of research has not yet, however, been completely realized.

CHAPTER XXI

England's Greatest Queen

Queen Elizabeth of England (1533-1603) was a great woman and a great ruler. She has given her name in history to an era—the Elizabethan era—which is remarkable for the brilliance of its literature; for the growth of learning, for the beginning of Colonial enterprise which ultimately led to the foundation of the United States of America and of the British Empire; for the rise of the navy as the protector of our shores and the emergence of England as a first-class Power of great influence in the counsels of Europe. The culminating event of her great reign, which began in 1558 and lasted over forty-four years, was the nomination of James VI of Scotland as her heir, for it brought about the peaceful union of England and Scotland.

Queen Elizabeth was undoubtedly a great Renaissance figure in her devotion to learning and the arts, in her interest in exploration, in her strong sense of nationality, and in

diplomacy, the new science of statecraft in which she proved herself an adept in the interests of the welfare of her kingdom.

When she was seven years old the first professor of Greek was appointed at Cambridge and her tutors were Humanists. She learned to read the Greek testament and native Greek literature, including Plato and the dramatists, and to converse and write in Latin, Italian and French. In her mature years she composed a book of prayers in four languages. Her artistic leanings were revealed not only in the poems she composed but in her beautiful handwriting in which she took pride. While yet a girl she greatly impressed those who knew her intimately by her intellectual accomplishments and strength of character. Her stepmother, the Queen-Dowager Katherine, once declared, "I believe that you are destined to be Queen of England". Elizabeth herself entertained a similar belief while yet her brother, Edward VI, and her elder sister, Mary, were alive, and she prepared herself seriously for her great responsibilities.

She was somewhat tall and of dignified bearing. Her face was of the "pear-shaped" type, and she had a very white skin and yellowish-red hair. Her blue eyes were deeply set and reflective of her moods, now coldly proud and anon sparkling with animation, for she had a strong sense of humour; her nose was long and curved downward and there was resolution in her firmly-moulded mouth and chin. As a young princess, she is said to have aroused public enthusiasm by her beauty; when she grew old her face assumed a somewhat masculine expression. She never married.

Patriotism was an outstanding note in her character. "I am the most English woman of the Kingdom. Was I not born in this realm?" was one of her proud recorded sayings. Both her father, Henry VIII, and her mother, Anne Boleyn,

were also native born. Like her Secretary of State, William Cecil, Lord Burleigh, Elizabeth had never visited the Continent and regarded "England as the world".

When Elizabeth came to the throne Spain was the supreme naval power in Europe and was in possession of the Netherlands. Its king, Philip II, had married Queen Mary of England in 1554 and wished to marry Elizabeth, but was refused and married instead Elizabeth, daughter of Henry II of France. His great aim in life as a Catholic monarch was to suppress the Reformation movement, but Elizabeth was a Protestant and her first Parliament re-established the ecclesiastical system founded in her father's reign and represented by the Church of England. Elizabeth supported the Protestants in the Netherlands and the Huguenot party of France and was regarded as the protector of the Protestants of Europe.

Mary Queen of Scots, Elizabeth's cousin, was regarded by the Catholic party as the heir to the throne of England and, indeed, when she became by marriage the queen of France, Mary declared herself also queen of England. After her somewhat brief and troubled career as queen of Scotland, Mary fled to England in 1568 and was detained as a prisoner until 1587 when she was beheaded in Fotheringay Castle, Northamptonshire, in her forty-fifth year, having been found guilty of being concerned in a plot against Elizabeth's life. Mary protested till the end that she was entirely innocent.

In July 1588 King Philip of Spain dispatched his great Armada to overthrow Elizabeth and subdue England. A papal bull had been issued excommunicating the queen, declaring that she was "dispossessed of her kingdom, her lands and her subjects", and all her titles and honours were formally conferred upon Philip, whose mission was "to

bring her lands and her people under his sway". The King of Spain realized that the time had come to arrest the growing sea-power of the island kingdom. Queen Elizabeth had been secretly encouraging men like Hawkins and Drake to carry out piratical exploits against Spain and to assert the principle of the freedom of the seas.

The Armada was in large measure a fleet of transports carrying about 20,000 soldiers and the intention of Philip was to effect a landing at Tilbury. At that port Queen Elizabeth, wearing a metal corslet, reviewed her troops and stirred them deeply by expressing defiance for the enemy who should dare to threaten invasion of her realm. It was, however, to its sea-power that England owed success. Howard was in command of the English fleet, but the strategist and tactician was Drake. The smaller English war-vessels could sail faster and fire more rapidly than the great Spanish galleons and in the conflict in the Channel the enemy were defeated and demoralized. Then a strong southerly gale sprang up and the Spanish fleet had to take flight into the North Sea towards the Pentland Firth. Many vessels were wrecked on the coasts of Scotland and Ireland, and only a third of the vessels and about half of the men ultimately returned to Spain.

In the cultural life of England Queen Elizabeth played a notable part. She was one of the earliest to recognize the supreme genius of Shakespeare and she showed him special favour. His plays were often performed at Court. According to tradition, she was greatly delighted with Falstaff, a tribute to her sense of humour.

Her patronage of Drake testifies to her far-seeing policy in connexion with the development of the navy. It was with her consent and co-operation that Raleigh founded the American colony of Virginia, which was named after the

virgin queen. She was a great administrator and devoted her life with a high sense of duty and responsibility to the welfare of her kingdom. To her subjects she was "good Queen Bess" and when she died England mourned her "as if it had been orphaned".

CHAPTER XXII

A Master Mariner

No hero of fiction has ever engaged in more thrilling and daring adventures than Sir Francis Drake (*c.* 1541-1596), the famous Elizabethan explorer and admiral who demonstrated to British sailors that the right way to defend their native land is not to wait until enemies attack, but to search for them and fight them on their own coasts. He was a native of South Tavistock, near Plymouth, and spent his boyhood in Kent, his home being an old hulk on the Medway in which his family lived before his father became vicar of Upchurch. He went to sea when still very young. In his early manhood he visited the West Indies and the coast of Mexico. Spain was at the time the supreme sea-power and in that area claimed a monopoly of trade. The English sailors were plundered and cruelly treated on this voyage, and in Drake's heart was stirred that hostility against Spain which lasted till the end of his days.

In time he waged war against Spain on his own account. With a band of adventurers, he set out on various voyages to engage in daring piracy. He found on the Darien coast a small natural harbour, well concealed by luxurious vegetation, and named it "Port Pheasant". There he could

conceal his small scouting vessels and prey upon the Spaniards as occasion offered. In 1572 he planned a most daring attack on the port of Nombre de Dios, at the mouth of the River Chagres, where the Spaniards deposited their stores of gold, silver, pearls and gems brought from Mexico and Peru for shipment across the Atlantic. Drake and his men sailed to an island which they used as a base. Then they set out in three pinnaces to deliver an attack at dawn. They landed safely, surprised and put to flight the small Spanish garrison, and, entering the Governor's house, found in a cellar a great quantity of silver bars piled up in a wall about twelve feet high, seventy feet broad and ten feet in thickness. They could not carry away such heavy treasure in their small boats, so they broke into the King's Treasury in which there were rich stores of gold and pearls. The Spaniards were meantime rallying and Drake, who had been wounded in the first attack, fainted suddenly from loss of blood. His followers, believing he had been mortally wounded, carried him to a pinnace and retreated. It was a great adventure, but yielded little reward.

When Drake's wound had healed he next attacked and sacked the city of Vera Cruz but got little treasure. This was followed by a landing for the purpose of intercepting a treasure-laden mule train crossing the Isthmus of Central America from Panama. A small band lay await in the darkness and attacked the train, which was carrying large quantities of gold and silver. As much treasure as possible was carried off with the aid of native allies; and, after many adventures and narrow escapes, Drake and his men returned to "Port Pheasant" and then set sail for England.

In 1577 Drake set out with a small fleet on a voyage to the Pacific. He rounded Cape Horn, but before beginning to plunder the Spaniards three vessels had to be broken up,

while a fourth, which got out of touch with the fleet during a storm, sailed back to England. In his famous ship the *Golden Hind*, Drake waged unaided his own little war against Spain. Among other daring actions he sailed one night into the port of Callao in Peru. In the morning he caused a panic by attacking the Spanish ships at anchor, boarding and plundering them freely and then cutting their cables to set them adrift. A few days later as he sailed northward, he captured a Spanish treasure ship. About a week was occupied in transferring to the *Golden Hind* its rich cargo of about twenty-six tons of silver, at least a hundred-weight of pure gold and many pearls, emeralds and diamonds.

The Spanish authorities sent warships towards Cape Horn to intercept Drake on his return voyage, but he made a clean escape by crossing the Indian Ocean and returning home by way of the Cape of Good Hope. Queen Elizabeth was one of those who invested money in Drake's expedition, and it has been estimated that her share of the rich cargo was worth about £1,125,000 of our money, while other investors received about 4,700 per cent. Drake himself became a rich man. The Spanish King complained bitterly to Queen Elizabeth, but that wily diplomatist, while pretending to be shocked, failed to give any satisfaction. In private she held Drake, whom she knighted, in high favour and it was by accepting his advice that her fleet was so reorganized and strengthened that Spain was ultimately worsted at sea.

In 1586, Drake commanded a squadron which operated in the West Indies. He captured and ransomed the towns of San Domingo and Cartagena, but yellow fever broke out among his men and he had to return home. With a strong fleet he set out for Spain in the following year to hamper the mobilization of the Spanish Armada. With great daring he sailed into Cadiz harbour where he found a large number

of ships partly manned and armed, and he sank or burned no fewer than thirty-three. Four laden with provisions were captured and taken away.

When the Spanish Armada sailed towards England in the following year, Lord Howard was in chief command of the English navy, but Drake, the second in command, had planned the offensive-defensive which resulted in driving the enemy to destruction. Not a single English ship was lost.

In 1589, accompanied by Sir John Norreys, who was leader of a landing force, Drake set out with an English fleet to attack Spanish ships of war on their own coast, seize Lisbon, re-establish the Portuguese government and capture a base in the Azores to intercept Spanish treasure ships crossing the Atlantic.

Corunna was raided and a number of vessels destroyed, but the Portuguese operations were a failure. A storm scattered the ships bound for the Azores and they had to return to Plymouth.

Drake's last expedition was to the West Indies, but in the midst of his difficulties sickness seized him and he died and was buried at sea off Porto Bello. So passed the great master mariner who had won for his England the freedom of the seas.

CHAPTER XXIII

Poets and Courtiers

At Queen Elizabeth's court poetry was a fashionable art. Men of wealth and rank composed verses in which they expressed their loyalty and friendship or rhapsodized on the beauty of their ruler. The queen was susceptible to flattery

and showed favour to those who addressed her in complimentary terms. Sir John Davis, the lawyer, sang to her:

Fair soul, since to the fairest body knit
You give such lively life, such quickening power,
Such sweet celestial influences to it
As keeps it still in youth's immortal flower . . .
O many, many years may you remain
A happy angel to this happy land.

Sir Walter Raleigh assumed the attitude of a devoted lover:

Oh, hopeful love, my object and invention,
Oh, true desire the spur of my conceit,
Oh, worthiest spirit, my mind's impulsion,
Oh, eyes transparent, my affection's bait.

In 1557 there was published an anthology—Richard Tottel's *Miscellany* (*Songes and Sonnetes*) containing many poems which had been privately circulated in manuscript form. The most notable contributors were Sir Thomas Wyatt (1503–1542) and Henry Howard, Earl of Surrey (1516–1547), both disciples of the Renaissance. Wyatt introduced the sonnet into England, imitating Petrarch not only in form, but adopting the Laura theme of unrequited love. Surrey was a finer artist and was less an imitator of Italian poetry. In his translation of Virgil's *Æneid* he was the originator of English blank verse. He even wrote sonnets in blank verse, as well as in a freer form than did the Italian poets. The Laura theme became fashionable and Sir Philip Sidney (1554–1586) wrote over a hundred sonnets addressed to a lady he called "Stella". The fashion of writing complimentary sonnets to patrons had been introduced from France and culminated in the series composed by Shakespeare.

One of England's great poets of the Elizabethan period

was Edmund Spenser (1552-1599), author of *The Faërie Queene*, the first three books of which were published in 1590. He stated in his preface that he followed Homer and Virgil and after these Ariosto and Tasso, drawing also upon the romances of King Arthur. In this allegorical poem the "queene" is Elizabeth and the Knights symbolize those who served her as true and noble gentlemen, pursuing high moral aims. We are not nowadays greatly concerned about the allegory, but appreciate the beauty and splendour of Spenser's great verse, which is comparable with the work of Milton, Shelley and Keats. He introduced the stanza named the Spenserian, of which the following is the first in *The Faërie Queene*:

A gentle knight was pricking on the plaine,
Ycladd in mightie arms and silver shielde,
Wherein old dints of deepe woundes did remaine,
The cruel markes of many a bloody felde;
Yet armes till that time did he never wield:
His angry steede did chide his foming bitt,
As much disdayning to the curbe to yield:
Full jolly knight he seemd, and faire did sitt,
As one for knightly giusts and fierce encounters fitt.

Little is known of Spenser's origin. He was born in London and studied at Cambridge University, graduating B.A. and M.A. For a period he held an official post in Ireland, and received a gift of land, but he was all but ruined by the Irish rebellion. A court pension was awarded by Queen Elizabeth, but her Lord Treasurer withheld it. Spenser's latter days were rendered gloomy by financial difficulties and bad health. He was honoured in death and at his interment in Westminster Abbey, the fashionable poets of the day threw complimentary verses into his grave.

CHAPTER XXIV

A Spanish Satirist

Don Quixote, the amusing, lovable and crazy "knight", whose adventures continue to make such entertaining reading, was a product of the Renaissance movement in Spain. His creator was Cervantes (1547-1616) who set out to write a satire with purpose to ridicule the fashionable literature of his time, which dealt mainly with gallant knights who performed wonderful feats and rescued fair ladies taken captive by cannibal giants, robbers or supernatural beings.

The author of the story of Don Quixote, Miguel de Cervantes Saavedra (pronounced "ther-van'tes sa-a-vā'dra") was a native of the Spanish city of Alcalá de Henares and at an early age removed with his father, an apothecary, to Madrid. As a lad, he wrote verse, but being of adventurous disposition, he became a soldier and fought against the Turks and also the African corsairs who were similarly Mohammedans. He was thirty-six before he returned to Spain, where he received a post in the public service. His salary was, however, irregularly paid, and he got into debt. In the end, owing to the dishonesty of a merchant, he became involved in such serious trouble that he was sent to a debtor's prison and lost his situation.

Cervantes was in great poverty when in his fifty-eighth year (1605), the first part of *Don Quixote* was published. It was an immediate success, but did not bring him relief from financial worry, and he was again imprisoned for debt. He did not complete his masterpiece until his sixty-eighth year.

Don Quixote is, in a sense, a self portrait, for Cervantes

was himself an impracticable man who had failed as a soldier, a writer, and an official, and was always in financial difficulties. Despite his sufferings, however, he retained a spirit of gaiety and good humour, and was capable of satirizing even his own literary work. He had published a poem entitled *Galatea* which was not a success, and he makes fun of it in his famous novel. When Don Quixote returns from his first adventure, his friends examine his library and discuss the books which had unhinged the mind of that poor "knight-errant".

"What's the next book?" asks the barber, and the curate replies: "It is the *Galatea* by Miguel de Cervantes. This Cervantes has for many years been an intimate acquaintance of mine, and I know he is more familiar with misfortunes than with poetry. His book certainly displays a certain degree of inventive power; it aims at something, but it reaches nothing. Let us await for the second part which he has promised us. Who knows but that, when it is issued, he may be found to have made amends and be worthy of the pardon we are now forced to deny him. Until that time comes, keep the book a close prisoner." The promised second part of *Galatea* was never published.

Don Quixote reveals Cervantes as a great prose stylist and a master of humour and tender pathos, while his character-drawing is vivid and realistic. Sancho Panza is an immortal but is only one of the many vivid personalities who figure in the story and are deftly characterized often in merely a few sentences. The laughing country girls who are diverted because the Don mistakes them for high-born ladies, the exasperated housekeeper, the jocular merchants who meet the sham knight-errant on the highway, the bewildered friars, the barber and the curate, are among the real living characters that are never forgotten.

Cervantes' Don Quixote had been rendered crazy by reading the popular romances about the doings of knights-errant and when he set out to imitate their actions, he cut a ridiculous figure in contact with reality. Cervantes killed that type of fictional hero for all time.

The last work of Spain's forerunner of the modern novelists, issued shortly before his death, was his poem *A Journey to Parnassus*, an autobiographical and literary satire. In it he sets out on a voyage to Greece because Apollo has summoned the poets to Parnassus. Mercury consults him regarding the merits of a number of Spanish poets, and Cervantes characterizes each in turn. When he is received by Apollo, Cervantes discusses his own works, and although he has been accused of egotism and vanity, posterity confirms the fame of this genius who suffered neglect and received little recompense during his life.

Cervantes joined the order of Franciscans on 2nd April, 1616, and died on 23rd April. His body, clothed in the Franciscan habit, was interred in the convent of the Barefooted Trinitarian nuns in Madrid. No stone was laid to mark his grave, which remains unidentified. In 1835 a statue was erected to his memory in the Plaza del Estamento, Madrid.

CHAPTER XXV

The World's Greatest Dramatist

"Shine forth, thou star of poets!" wrote Ben Jonson regarding Shakespeare, his friend, and, as he put it, "my beloved master". In his eloquent verse he hailed the great dramatist as

Soul of the Age!

The applause, delight, the wonder of our stage!

Jonson realized that Shakespeare was a universal genius, declaring:

He was not of an age but for all time.

William Shakespeare (1564-1616) was undoubtedly the greatest dramatic poet the world has ever seen. Our knowledge regarding him is somewhat meagre. He appears to have been a modest, unassuming man. Ben Jonson has referred to him as "honest and of an open and free nature" and calls him "gentle Shakespeare". According to traditions collected in the seventeenth century by Aubrey, his first biographer, Shakespeare was "very good company, and of a very ready and pleasant smooth wit". He was a native of Stratford-on-Avon in which his father John Shakespeare had settled as a trader in 1551, and became a member of the Corporation. When the future dramatist was in his fourth year, his father, then chief magistrate, encouraged the Queen's company of actors to visit the town and give performances. He lived long enough to take pride in his eldest son as an actor and dramatist of distinction, who earned a substantial income. In 1601, the year of his death, his son was writing *Julius Cæsar*.

The poet appears to have been educated at Stratford-on-Avon grammar school, but as his father had got into financial difficulties, he had to leave it in his fourteenth year. He worked with his father who, finding other lines of business unprofitable, had become a butcher. When only eighteen and a half years old, Shakespeare married Anne Hathaway, and in his twenty-second year (1586) he set out for London, travelling on foot by way of Oxford. According to tradition, he had in Stratford got into trouble owing to his poaching escapades, and was prosecuted by Sir Thomas

Lucy. In London he obtained employment at a theatre, and soon became an actor, and, according to a record, "did act exceedingly well". At the time playwrights sold their plays to the acting companies. Many of these had to be revised and partly re-written, and Shakespeare was engaged in work of this kind before he began to write plays of his own. His famous dramas were produced from his twenty-seventh till his forty-seventh year (1591-1611). It is not quite certain in what order many of them were written. Sixteen were published during his life-time and the remaining twenty-one after his death. The acting companies believed that the publication of plays would interfere with attendance at the theatres, but as there was no law of copyright, they could not prevent publishers issuing those that came into their hands. The date of the publication of any particular play, however, does not afford sure indication of the precise time at which it was written. *Love's Labour's Lost*, which was printed in 1597, was probably Shakespeare's first play, but had been written about six years earlier. Among the greater plays *Hamlet* was written about 1601; *Othello* and *Macbeth* after 1603, the year of Queen Elizabeth's death; *King Lear* in 1606; *Antony and Cleopatra* in 1607-8; and *Coriolanus* not long afterwards. Shakespeare's last play, *The Tempest*, was composed about 1611.

The majority of Shakespeare's sonnets, which, outside those found in plays, number a hundred and fifty-four, were written, it is believed, in his thirtieth and thirty-first years. A few were composed several years later. They were at first circulated in manuscript and not published in book form until 1609, when the poet was in his forty-fifth year.

When Shakespeare was beginning to make a reputation as a playwright, he published his narrative poems *Venus*

and *Adonis* (1593) and *Lucrece* (1594). These were both received with enthusiasm. Seven editions of the first and five of the second appeared during his life-time.

The first collection of Shakespeare's plays was issued in 1623, and is known as the "first folio"; it was reprinted in 1632, and in 1633 an edition appeared with seven more plays added. A fourth edition of the folio was published in 1685. During the seventeenth and eighteenth centuries Shakespeare's fame ebbed and flowed, but in the nineteenth century it increased greatly, not only in Britain and America, but on the Continent. In our own time the recognition of his surpassing genius is world-wide.

Shakespeare died in his native town, which, after an absence of eleven years, he visited annually until the end of his professional career, when he finally settled in it. In 1597 he purchased New Place, the largest house in the town, but did not occupy it till 1611. He also from time to time bought other property and land. In his latter years he was a comparatively wealthy man, and according to the Rev. John Ward, vicar of Stratford, "spent at the rate of a thousand a year".

He died at the age of fifty-two, on 23rd April, 1616, and was buried near the northern wall of the church inside Stratford church. The monument on the wall above his grave, with a half-length figure, was the work of Gerard Johnson, a London sculptor of Dutch birth. It was erected before the publication of the "First Folio" of 1623, in which there is a reference to the "Stratford monument".

CHAPTER XXVI

The Shepherd of the Ocean

Sir Walter Raleigh (1552-1618), poet, courtier, historian, explorer and naval leader, was called by his friend, the poet Spenser, "The Shepherd of the Ocean". In his pastoral entitled "Colin Clout comes Home Again", which is autobiographical, the poet celebrates their friendship:

One day I sat, (as was my trade)
Under the foot of Mool, that mountain hoar,
Keeping my sheep amongst the coolly shade
Of the green alders by the Mulla's shore;
There a strange shepherd chance'd to find me out,
Whether allurèd with my pipe's delight,
Whose pleasing sound yshrilled far about,
Or thither led by chance, I know not right:
Whom when I asked from what place he came,
And how he hight; himself he did yclep
The shepherd of the Oceän by name,
And said he came far from the main-sea deep.
He sitting me beside, in that same shade,
Provokèd me to play some pleasant fit;
And when he heard the music that I made,
He found himself full greatly pleas'd at it.
Yet, emuling my pipe, he took in hand
My pipe, before that emulèd of many
And play'd thereon, for well that skill he con'd
Himself as skilful in that art as any.

Raleigh's own poetry strikes the authentic note, as in the following stanza in which lingers the shadow that fell upon his own life:

Even such is Time, that takes in trust
Our youth, our joys, our all we have,
And pays us but with earth and dust;

Who in the dark and silent grave,
When we have wander'd all our ways,
Shuts up the story of our days;
But from this earth, this grave, this dust,
My God shall raise me up, I trust.

Sir Walter first won distinction fighting in Ireland where his deeds of personal bravery were admired even by those who were opposed to him. Queen Elizabeth made him a courtier and he cut a picturesque and gallant figure in high circles, but he preferred a life of action and adventure. He had dreams of an England which would rival Spain in extending her dominions overseas, and he was the founder of the first English colony in North America which was named Virginia. Although the earliest settlers did not prosper, his plan was subsequently made a success. Raleigh became a smoker in America and introduced tobacco into England. By the time of Charles II the tobacco tax produced an annual revenue of over £400,000. He has been credited, too, with the introduction of the potato, but the ordinary potato did not reach North America from Chile and Peru until early in the eighteenth century.

In 1596, when Spain was again preparing for an invasion of England, he was given command under Howard and Essex in an expedition against Cadiz. He proved himself the ablest man of the three, and it was his plan of attack which led to the destruction of the Spanish fleet and the capture of the city which was held for a fortnight and had to be ransomed. In the following year he captured the Spanish stronghold of Fayal in the Azores.

After Queen Elizabeth died, Raleigh became the victim of his political enemies, and he was accused of complicity in Lord Cobham's plot to make Arabella Stuart successor to the throne. He was tried and sentenced to death, but

afterwards reprieved and imprisoned in the Tower of London where he remained for over twelve years. During his captivity he wrote his *History of the World*, in which he proved himself a great master of prose and an original and stimulating thinker.

In 1616 he obtained his release as leader of an expedition to Guiana to open a gold mine which, he believed, existed there. He had conflicts with the Spaniards, but never found his dreamed-of El Dorado. On his return, charges of piracy were made against him, and King James, who was courting favour with the Spanish court, lent a ready ear to Spanish accusations against Raleigh. In the end, Raleigh was brought before the King's Bench and condemned to die on the old charge with regard to the Arabella Stuart plot, and he was beheaded on 29th October, 1618. His last words were:

"I have many, many sins for which to beseech God's pardon. Of a long time my course was a course of vanity. I have been a sea-faring man, a soldier and a courtier, and in the temptations of the least of these there is enough to overthrow a good mind and a good man."

CHAPTER XXVII

The Inventor of Logarithms

Logarithms were invented by that great mathematical genius Baron John Napier (1550-1617), the laird of Merchiston, Edinburgh. His publications on the subject are two short books in Latin, *Descriptio* (1614) and *Constructio* (1619), the latter having been written at intervals some years before the former, although not given to the world

until after his death. His invention of the wonderful tables to enable multiplication to be accomplished by a process of addition came as a sudden revelation when *Descriptio* was published. "No previous work had led up to it," as one writer has emphasized; "nothing had foreshadowed it or heralded its arrival. It stands isolated, breaking in upon human thought abruptly without borrowing from the work of other intellects or following upon known lines of mathematical thought." Napier had spent about twenty years at his invention and when he had solved its problems, gave it to the world. It is not surprising to learn that in his time he was suspected of "black magic"!

Napier was descended from an old Edinburgh family which had been prominent in public affairs and military service. Merchiston Castle, built on land gifted by the Crown, was a stronghold on the fringes of the city of Edinburgh, in which it is now included, and where it survives as part of an educational institution. John Napier was born in this castle, his father having been Sir Archibald Napier, Master of the Mint and prominent in political life and the Reformed Church; his mother was a relative of the Earl of Bothwell who married Mary Queen of Scots.

Napier appears to have received his early education at home and in his thirteenth year became a student of St. Salvator's College, University of St. Andrews, the head of which, Dr. John Rutherford, had been educated in France and a teacher in Bordeaux Collège de Guienne; he was a distinguished scholar of the Renaissance. Napier resided with Rutherford, but left St. Andrews without taking a degree. He subsequently studied on the Continent, but where has never been discovered. He was home again in 1571 and he married in the following year a daughter of Sir James Stirling of Keir. He succeeded his father in 1608.

We know little regarding his studies, but a document from his hand, which is preserved in Lambeth Palace, deals with certain inventions he hoped to produce for the defence of Britain in time of war. These included a burning mirror which would set fire to enemy ships at a distance; a gun which would destroy an army; a chariot like "a moving mouth of metal" which would "scatter destruction on all sides"—a suggestion of the modern "Tank"; and a vessel for "sayling under water"—a submarine. Sir Thomas Urquhart of Cromarty declared that Napier's gun was to clear an area "of four miles circumference of all the living creatures exceeding a foot in height" by virtue of "materials fit for the purpose"—evidently a dream of the modern gas attack.

Napier was the author of a work entitled "A Plaine Discovery of the Whole Revelation of St. John" in which he concluded that the Last Day would "fall betwixt the years of Christ 1688 and 1700". It was published in 1593 and was translated into Dutch, French and German.

His important and enduring achievement, the invention of logarithms, has won for him a high place in the history of European scholarship.

CHAPTER XXVIII

A Pioneer Astronomer

Galileo (1564-1642) achieved fame as a pioneer of modern science and especially for the development of the telescope and his use of it in studying the heavenly bodies. For his "heresies" he was tried, condemned and sentenced to be

imprisoned by the Inquisition and he became blind in his latter days. He was one of the "martyrs of science" as well as one of the Renaissance pioneers.

Like Columbus and the famous Romans Cato the Elder, Sulla, the Emperors Augustus, Nero, etc., he had probably in his veins the blood of the Celts who settled in Italy, for he was of fair type, his hair being of reddish hue. He was a pleasant and cheerful man in company, but "touchy" and of quick temper; and so great was his devotion to scientific truth, that when aroused by opposition he was as fearless as he was zealous. His friends loved and admired him, but he made bitter enemies, including those who were jealous of his attainments and those who sincerely believed that his views were irreligious.

Galileo Galilei (pronounced gal-i-lā-ē) was born in Pisa and was the eldest of a family of three sons and three daughters. His father, a nobleman of Florence, named Vincenzo Galilei, represented an old family which in the fourteenth century had its surname changed from that of Bonajuti. Galileo was fortunate in his father, a man of great intelligence, who took a deep and serious interest in the education of his son. At an early age Galileo gave evidence that he was no ordinary boy. He was musical and learned to play several instruments and became so devoted to pictorial art that he wished to be a painter. His father, however, sent him in November 1581 to the University of Pisa to begin the study of medicine. Galileo added geometry to his subjects and, in time, his father, finding that his son had discovered his real bent, wisely let him have his way, with the result that Galileo became wholly engrossed in mathematics and natural science. In 1589, when only twenty-five, Galileo was appointed professor of mathematics in the University of Pisa, and in 1592 he was chosen for the Chair

of Mathematics at Padua University where he remained for about eighteen years. Although he had to teach the Ptolemaic system, he had convinced himself that the doctrines of Copernicus were sounder. He confessed in a private letter in 1597 that he had not yet dared to publish his arguments against the Ptolemaic view. His lectures and writings were, however, already spreading his fame throughout Europe.

Among the achievements of Galileo was the development of the telescope which in Holland was a mere toy and of little practical use. The first one he made magnified only three times, but, at length, he had one manufactured according to his instructions with a magnifying power of more than thirty times. He first directed it towards the moon and discovered that that body, instead of having, as was supposed, a smooth surface, had one with hollows and ranges of mountains. Then he found that certain stars were double, that in the Pleiades, or "Seven Stars", there were many more than the unaided eye could perceive, and that in the "Milky Way" blurs of light were composed of numerous minute stars. His most sensational discoveries were that there were moons revolving round the planet Jupiter, that Saturn, then the remotest known planet, was surrounded by rings, that Venus appeared as a crescent, and that there were spots on the sun.

Galileo held that his revelations proved the correctness of the Copernican theory and he attacked his critics with boldness, severity, and sarcasm. He aroused much opposition and enmity, and when he contended, in reply to denunciations from many pulpits and in fiery and indignant letters, that the scriptures were designed to instruct us regarding salvation, while our mental faculties were intended to investigate the mysteries of the Universe, he came into open conflict with the Church. His enemies had him sum-

moned before the Inquisition on charges of heresy and he was sentenced to imprisonment for an indefinite time. After a brief period of detention, his sentence was commuted to banishment or detention in certain residences. He was subsequently permitted to return to his own home at Arcetri, near Florence, where, in 1637, he became totally blind. In 1638 he received there the English poet, John Milton, who subsequently wrote: "I found and visited the famous Galileo, grown old, a prisoner to the Inquisition for thinking in Astronomy otherwise than the Franciscan and Dominican licensers thought."

Galileo died on 8th January, 1642, in the seventy-eighth year of his age, and was interred in the church of Santa Croce, Florence.

CHAPTER XXIX

Pioneer of Medical Science

A great advance in medical science was made possible when Dr. William Harvey (1578-1657) discovered the circulation of the blood. Not only did he revolutionize Pathology, the systematized knowledge of disease, but introduced those methods of careful research which are concerned with the collection of facts rather than with conjecture based upon imperfect knowledge. The very name "artery" reveals the theory that, before his time, obtained regarding the blood vessels. It was derived from the Greek word *aer* (air), the ancient conception being that an artery was an air duct. It was known that the blood was in motion, but as the arteries were found to be empty after death, the belief that their sole purpose was to convey air received general

acceptance. Some investigators of an earlier period than Harvey achieved advances in their investigations of the heart and lungs, but to him alone is due the credit of the greatest discovery in anatomical and physiological science. The fact that it was severely criticized and even ridiculed by some in his day emphasizes the fact that he was a great pioneer.

William Harvey was born in Folkestone, Kent, on 2nd April, 1578. After passing through Canterbury Grammar School, he was admitted to Caius College, Cambridge, at fifteen (31st May, 1593). He studied there for five years, and then travelled in France and Germany. Ultimately he went to the Italian city of Padua, an ancient seat of learning, which was celebrated for its medical school as well as its association with such notable Renaissance geniuses as Giotto, Fra Lippo Lippi, Galileo, Columbus and Tasso. He studied there under renowned teachers, including Hieronymus Fabricius of Aquapendente, the anatomist. He graduated at Padua on 25th April, 1602. Then he returned to Cambridge where he was duly incorporated and began the practice of medicine in London. He subsequently became a Fellow of the London College, and was appointed a physician of St. Bartholomew's hospital, becoming in 1615 Professor of anatomy and surgery in the college of that institution. In 1616 he began to develop in his lectures his theory of the circulation of the blood, but it was not until 1628 that a printed account was published at Frankfort in a small quarto volume of seventy-two pages written in Latin.

The new doctrine met with considerable opposition, as has been indicated. It was the result of careful and laborious experiments made chiefly upon living animals. In the ninth chapter of his book he set forth succinctly:

"First, that the blood is continually, and without intermission, transmitted out of the vena cava into the arteries in so great abun-

dance that it cannot be recruited by those things we take in, and insomuch that the whole mass of blood would quickly pass through. In the second place, that continually, duly and without cessation, the blood is driven into every member and part and enters by the pulse of the arteries, and that in far greater abundance than is necessary for nourishment, or than the whole mass is able to furnish. Thirdly, that the veins themselves do perpetually bring back this blood into the mansion of the heart.

Those things being proved, I think it will appear that it doth go round, is returned, thrust forward, and comes back from the heart into the extremities and thence into the heart again, and so makes as it were a circular motion."

The poet Dryden wrote regarding Harvey's discovery:

The circling streams, once thought but pools of blood,
(Whether life's fuel, or the body's food)
From dark oblivion Harvey's name shall save.

The older physicians ridiculed the new doctrine, attacking Harvey with heat and vigour. He was sneered at as "a mere dissector of insects, frogs and other reptiles". He lost patients owing to the ridicule which many directed against him. Aubrey, his first biographer, says "that after his booke of the Circulation of the Blood came out, he fell mightily in practise. . . . 'Twas believed by the vulgar he was crack-brained; and all the physicians were against his opinion and envyed him". He, however, triumphed in the end, living long enough to find his doctrine generally established. Hobbes (1588-1679), the English philosopher, writing of him, says: "Harvey . . . is the only man I know that, conquering envy, hath established a new doctrine in his life-time."

Harvey had been physician extraordinary to King James I and in 1632 was appointed physician in ordinary to King Charles I, who took a great interest in his work and witnessed many of his experiments. In 1633 when the Court

was held in Scotland Harvey was in attendance. He visited North Berwick during his stay and wrote a picturesque account of the sea-birds that are to be seen in great numbers at the Bass Rock island. He was an eye-witness of the battle of Edgehill and had the two sons of the King under his care. In December 1642 he attended the King to Oxford where he was given the degree of M.D. Three years later he was elected warden of Merton College, but he left Oxford in 1646 when it was surrendered to Parliament. The remainder of his life was spent in retirement. He presented a library and museum to the College of Physicians, London, and endowed an annual lectureship, the Harveian Oration. When he died at the age of seventy-nine, many of the Fellows of the College attended his funeral to the family vault at Hempstead in Essex where a monument was erected to his memory.

Harvey was a man of short stature, with sallow complexion, small dark vivacious eyes, and black hair, which whitened in his old age. Nothing delighted him more than to give instruction; he was then amiable and absorbed in his subject. When opposed he could be vigorous and aggressive, being, as a contemporary put it "very cholerique". He suffered much from gout in his latter years.

CHAPTER XXX

A Military Reformer

An outstanding pioneer of the science of modern warfare was the great Swedish King and military leader Gustavus Adolphus (1594-1632). He was an accomplished

strategist at a time when other generals failed to realize that the art of moving troops over a country could do much harm to an enemy and make victories not only possible but decisive. Before his time success in war was supposed to depend mainly on the size of armies, on personal courage, and on hard blows. Gustavus demonstrated that an enemy however strong, could be weakened, baffled and disorganized by seizing "key positions", cutting communications so as to reduce supplies of food and ammunition, thus rendering strongholds untenable, and by compelling retreats which caused exhaustion and reduced "morale". He planned his campaigns with intelligence and care and refrained from the custom of entering an area just because it was rich enough to plunder. His movements were directed so as to reach and occupy positions of strategic value. Towards non-combatants he was both just and merciful. He refrained from plundering, paying for any supplies he required and protecting those who came under his power. He thus divested war of one of its worst features, for in his time invading armies were guilty of terrible atrocities. His men were well trained, and he inspired them with his own high principles, being an honourable and highly religious man as well as a strict disciplinarian. He was a striking figure—tall, handsome, of noble bearing, and so heavy that the horses he rode had to be very muscular, big of bone and strong of wind. He had a quick and active mind, an inflexible will, and was a hard worker. His voice was deep and rich, and he expressed himself with clearness and decision. In private life he was kindly and tolerant; in battle he displayed great courage and daring, but a marked degree of native caution prevented him from being reckless as a leader. His campaigns were carefully thought out and planned; he left nothing to chance.

His grandfather Gustavus I (Gustavus Vasa) had established Protestantism in Sweden and was succeeded in turn by his sons Eric XIV and John III. Sigismund, son of John III, was a Roman Catholic, who had been reared in Poland and was heir to the throne of that country. He was deposed in Sweden and Charles, younger son of Gustavus Vasa, became first the Regent and then the King. Gustavus Adolphus succeeded his father as Gustavus II in 1611 when only seventeen years of age. He had already been trained as a soldier and displayed marked ability in generalship. Sigismund had previously retired to Poland, and a state of war existed between Sweden and that country and also between Sweden and Denmark and Sweden and Russia. Gustavus waged a two years campaign against Denmark and forced that country to agree to a peace. Then he arranged a two years' truce with Poland and in 1614 invaded Russia at the point where Petrograd (Leningrad) is now situated. In three years he forced Russia to make peace. Sigismund of Poland refused to come to terms, but in accordance with the fashion of the time, extended the truce, which did not expire until 1621. Then Gustavus landed troops at Riga and the war proceeded in annual campaigns for several years. In 1629 a long truce was arranged.

During the latter part of the Polish campaign Ferdinand II, the Emperor of Austria, the champion of the Roman Catholic Church, sent troops to assist Poland. This action caused Gustavus to respond to the appeals of the German Protestants to go to their aid in the Thirty Years War (1618-48). The political effect of his intervention was of far reaching importance for the future of German liberty and independence.

Gustavus had learned much during his Polish campaigns, and gradually introduced various reforms in his infantry,

cavalry and artillery, until he made the Swedish forces "distinctly superior", as a modern military expert puts it, "to any European army of the day". When he opened his German campaign by landing in Rügen in June, 1630, the Catholic party made jokes about him. Wallenstein, Duke of Friedland, the distinguished Bohemian general who had joined the Austrian army against his own countrymen, referred to him mockingly as the "snow-king". Gustavus had on landing in Germany, only 15,000 men under his command, but he subsequently secured allies which raised his force to 40,000. He first captured sea-board towns so as to be based on the Baltic. Then he secured his position on the river Oder to enable him to operate into the heart of Germany and after being well planted between the Oder and Elbe, he crossed the latter river. He had by his manœuvring outwitted his opponent Tilly, who had an army of 34,000 against Gustavus's which had grown to 25,000. In a year after landing in Germany, Gustavus was in occupation of Pomerania and Mecklenburg, controlling all the territory to the borders of Poland and Silesia. Tilly, whose army ravaged in Saxony, arrived in Leipsic and was heavily defeated by Gustavus in the battle of Breitenfeld on 17th September, 1631.

Gustavus by clever strategic movements established himself in southern Germany after securing the northern and western area. Wallenstein had been deprived of his command, but was called back by the Austrian Emperor to oppose Gustavus who had crossed the Danube, won a success at Lech, and held the most of Bavaria.

Wallenstein moved into Bavaria and threatened the communications of Gustavus, who changed his plans to deal with a new menace. When, however, his strategic movements accomplished what he aimed at and his force was

made sufficiently strong, he moved quickly and boldly to Saxony and defeated Wallenstein at Lützen on 16th November, 1632. In this battle he himself was slain. Germany thus lost its protector, who had proved himself the greatest general since Julius Cæsar. Modern military critics continue the study of his wonderful campaigns, regarding him as a strategical genius.

CHAPTER XXXI

Landsman who became Admiral

It was a landsman who organized on a uniform plan the British navy and the various naval departments and introduced reforms leading to the developments with which we are familiar in modern times. This was Robert Blake (1600-1657) who was not only a great organizer, but a born strategist and tactician. His remarkable naval career began when he was fifty years of age and it lasted for only eight years.

He was born at Bridgwater of a prosperous family long settled there, and after taking his B.A. degree at Oxford, became a merchant. His trading activities took him to Schiedam in Holland, where he resided for some years. In his fortieth year he entered Parliament, and he subsequently took an active and prominent part in the war against King Charles I, achieving distinction as a military leader in his defence of Bristol and Taunton and by his operations weakening the royal hold in the west of England. In 1649 Cromwell appointed him a "general-at-sea", and his first task was to hunt down Prince Rupert who had command of a fleet. Blake drove him from Kinsale in Ireland, from

the mouth of the Tagus, and then to southern Spain, where some opposing ships were driven ashore. Rupert's last place of refuge was Toulon from which he escaped with only one war-vessel.

The Dutch war followed. It was fought to assert the English claim to sovereignty of the English Channel and the right to an indemnity from aliens who visited the fishing grounds on the coasts of Britain. Van Tromp, the Dutch admiral, appeared one day off Dover castle with a fleet of forty-two vessels and Blake, whose division numbered only fifteen, considered it an insult that the Dutch admiral did not lower his flag. Blake fired three guns as a warning and Van Tromp, instead of lowering his flag, responded with a broadside. A battle followed and was waged until darkness fell. Two Dutch ships were captured.

Attacks on Dutch trading and fishing vessels followed along the coasts as far north as Orkney. Van Tromp subsequently appeared in the English Channel with a strong fleet and Blake, having a comparatively small squadron, was forced to retreat to the Thames. The Dutch assert that on this occasion Van Tromp had a broom hoisted to the masthead of his flagship to signify that his countrymen were "sweepers of the sea".

Blake prevailed upon the Government to strengthen the navy and introduce far-reaching reforms, and he was given 1200 land soldiers and a number of new officers, including distinguished leaders like Monck, Disbrowe and Penn, who were made "admirals and generals of the fleet". Blake then issued a new battle order that "all the ships of every squadron shall endeavour to keep in a line with the chief." In February 1653 he won a victory over Van Tromp during a three day's running fight up the Channel. His fleet of sixty ships was opposed by a Dutch fleet of seventy which

was convoying about 300 merchantmen. Van Tromp lost eleven warships and thirty merchantmen and Blake only one warship. Blake himself was, however, wounded. In another running fight in June his squadron did not join the others until the close of the first day during which Monck threw the Dutch into disorder. Van Tromp was then driven home with the loss of eleven ships captured, six sunk and two blown up. The Dutch coasts were at once blockaded and when Van Tromp, with a reinforced fleet, gave battle, he was defeated and killed. Blake's "generals" captured twenty-six Dutch ships and lost only two. Some months later a peace was signed, which secured the British claims.

In September 1654 Blake sailed for the Mediterranean to assert the power of the Commonwealth there and force the Italian government and the Barbary states to respect the merchants of Britain. He was eminently successful, his most daring exploit being the destruction of the fleet of the Dey of Tunis, who submitted and delivered up British captives. He afterwards blockaded Cadiz and then returned home. Early in 1656 he again sailed to the Spanish coasts. One of his squadrons captured six ships of the plate fleet and the treasure taken was so great that, after being landed in England, thirty-eight wagons were required to convey it to London. On 20th April, 1657, Blake destroyed a Spanish fleet sheltering in Santa Cruz. He completed his work of suppressing piracy before he set sail for home in the *St. George*, suffering from scurvy and dropsy. As his fleet drew near England he lay dying and asked, time and again, if the homeland was in sight. At last he was informed that the *Lizard* was sighted and he expressed himself as well content. When Plymouth came in view on the evening of 17th August, 1657, Blake expired. His wish to be buried

on shore could thus be realized. Cromwell had his body interred in Westminster Abbey, but after the Restoration it was removed to St. Margaret's churchyard.

Blake left a legacy of great bravery and devotion to duty. He proved himself not only a worthy successor of Drake, making himself "a portion of the history of his country", but as a great admiral and organizer of the navy who did much to ensure the future of Britain's power at sea.

CHAPTER XXXII

The Commoner and the King

"With great courage and consummate abilities, he began a noble opposition to an arbitrary Court, in defence of the liberties of his country; supported them in Parliament and died for them in the field." Such was the inscription in the Temple of British worthies at Stowe over the bust of John Hampden (1594-1643). Charles I, acting as an absolute monarch, attempted to govern the kingdom without Parliament and claimed the power of imposing taxes. A crisis was reached when in 1635 there came a royal demand for "ship money"—a demand which widened the breach between the King and large numbers of his subjects and led to eleven years of civil war. The ships were required for the navy and at first London and certain maritime towns were commanded, by right of an antiquated law, to provide war vessels with arms, stores, &c., and wages for the crews for twenty-six weeks. Payment for each ship was at the rate of £3300 and officials were ordered to seize the property of those who refused to pay. In 1636 the Royal order

was extended to all counties, cities and corporate towns.

John Hampden, who came into prominence as a leader opposed to the impost on the ground that it was illegal and a serious breach of constitutional liberty, was a native of London, and on his mother's side a near relative of Oliver Cromwell. He had been a gentleman commoner at Magdalen College, Oxford, and afterwards studied law in the Inner Temple, London. He entered Parliament at the beginning of the reign of King Charles I, and soon became known as a prominent opponent of the arbitrary practices of that monarch.

In the first year of the "ship money" impost over £200,000 had been collected. Hampden resolved to take a decisive stand when, in 1636, the shire of Buckingham, in which he resided, was required to supply a ship of war fully equipped with a crew of 180 men and wages for six months, or in lieu thereof, a sum of £4500 which was to be levied on the inhabitants and paid to the Treasurer of the Navy for the King's use. Hampden refused to pay his share and there were many who followed his example. It was then resolved to proceed against him as a defaulter, making his a "test case". Charles I was advised to take the opinion of twelve judges with regard to his own claim that when the State was in danger the King had the power to compel his subjects to furnish warships for its defence and that he was to be the sole judge of the danger and of the means of meeting it. A majority of the judges decided in favour of the King and John Hampden was then put on trial. The claim against him was for £1, 11s. 6d., but in the trial it was restricted to twenty shillings in respect of his lands in the parish of Stoke Mandeville adjoining to Great Kimble. A majority verdict was obtained against him.

One of the results of the King's policy was the promotion

of a movement among the Puritans to emigrate to America. They were not only being illegally taxed but persecuted, and wished to find new homes in which liberty of conscience would be "the first law". In April, 1638, however, an order of the King in Council was issued which required all owners of ships to refrain from carrying passengers to America without special license. It chanced that at the time there were eight emigrant ships in the Thames. The passengers and stores had to be sent ashore in obedience to the Royal edict and from one of the ships came no less important individuals than John Hampden and Oliver Cromwell, who had intended to emigrate to America. Compelled to remain in their native land, the one became the first to organize armed resistance against the Crown and the other to accomplish the overthrow of the monarchy and ultimately set himself up as Lord Protector, a sovereign in all but name.

Hampden was subsequently elected to a Parliament summoned by the King and in 1642 he was one of the five members who were marked out for arrest. King Charles paid a visit to Parliament with a strong force and entered the House of Commons with his nephew, Charles, the Prince Palatine of the Rhine. This was regarded as a breach of privilege. The King's demand to have the five members committed for treason was accordingly resisted and the House adjourned amidst cries of "Privilege, privilege."

John Hampden, realizing that force could be overcome by force alone, issued an ordinance to assemble the militia of his county. There was a ready response and large numbers mustered to undergo training. When the Parliamentary army came into existence under the generalship of the Earl of Essex, Hampden was appointed commander of

a regiment. He was fatally wounded on Chalgrove Field on 18th June, 1643, and died about a week later. His aim had not been to overthrow the monarchy, but to bring it back "within the measured limits of the English constitution".

CHAPTER XXXIII

The Man who refused a Crown

"I cannot undertake this government with the title of a King," declared Oliver Cromwell in 1657 when a movement was on foot to place him on the throne of the Stuarts. Julius Cæsar, who similarly rose to power as a great soldier and statesman, considered it politic to announce a like decision during his dictatorship in the Roman Republic in the first century B.C. An interesting fact is that Cromwell had a blood connexion with Royalty, for through his maternal grandfather, William Steward of Ely, he was descended from Alexander, Lord Steward of Scotland, founder of the House of Stuart.

Cromwell left the royal title in abeyance and became Lord Protector of Great Britain and Ireland. His installation in Westminster Hall could not have been attended by more solemn and dignified ceremony if he had been crowned King. Trumpets blared and the throng cheered with enthusiasm when he sat in the Coronation chair beneath a rich canopy, wearing a robe of purple, the sword of justice in his belt and the gold sceptre in his right hand, while his eyes were fixed upon a great Bible which lay open on a table in front of him. He remained Lord Protector and

virtual dictator of the realm until the day of his death in the sixtieth year of his age.

Cromwell (1599-1658) was a younger son of Sir Henry Cromwell (who had been knighted by Queen Elizabeth) and a grand-nephew of Thomas Cromwell, Earl of Essex. He was born in Huntingdon and was a student at Cambridge; according to tradition he read law at Lincoln's Inn, London. He married in his twenty-second year Elizabeth Bourchier, daughter of a London merchant, who had an estate in Essex and was related to John Hampden. For several years Cromwell lived the life of a country gentleman at Huntingdon. He entered Parliament as member for his native place in 1628 and subsequently represented Cambridge. When the constitutional struggle between Parliament and King Charles I was impending, he engaged in raising and drilling volunteers. The King at length proclaimed him a traitor, and on 22nd August, 1642, the royal standard was raised on the castle hill of Nottingham. Prince Rupert, nephew of the King, was made general of horse in the royal army, known as the Cavaliers, and the Earl of Essex, son of Queen Elizabeth's favourite, became general of the Parliamentary forces, known as the Roundheads. Cromwell served first as a captain and then as a colonel during the early part of the war which broke out. The fleet declared for Parliament.

An indecisive battle was fought at Edgehill on 23rd October, 1642, and other conflicts followed. After a year and a half of war the situation was more in favour of the King than Parliament, but in July, 1644, the royal army was defeated heavily in the battle of Marston Moor. Cromwell was in command on the left, supported by David Leslie and his Scottish troopers, and routed Prince Rupert's cavalry. The centre of the Parliamentary army had, mean-

time, been broken, but Cromwell turned threatened disaster into victory by leading his cavalry against the royalist rear and then relieving the harassed infantry in the centre, attacking the royalist infantry in front and flank. The King's army was defeated and Cromwell had proved himself a great tactician.

In 1645 a decisive Parliamentary victory was won at Naseby. Sir Thomas Fairfax was the lord general. Cromwell, in command on the right, broke up the royalist left wing by a cavalry charge, and then, repeating the tactics of Marston Moor, went to the relief of the infantry. Again he brought victory with his finely disciplined force, the royalist army, which had fought bravely, being scattered in flight.

In 1646 King Charles surrendered to the Scots, who ultimately handed him over to commissioners of the English parliament. It was not, however, until 1649 that the King was put on trial in a court numbering sixty-two members selected by soldiers "to do the behest of soldiers". This "court" was, as Lord Morley has written, "hardly better or worse than a drum-head court-martial." In vain the King protested that his judges were no real court and were not there by law. He was condemned to die on 27th January, and three days later was beheaded at Whitehall. Cromwell is said to have written out the death warrant, signing it with two others.

A Council of State, consisting of forty-one persons, was subsequently formed, and in May it proclaimed a free Commonwealth to be governed by a representative parliament without King or House of Lords. Cromwell, who had striven in 1647 to make terms with King Charles, nominally adhered to this decision. He was not in sympathy, however, with the Levellers and others who were causing serious trouble. The royalist threat remained and there were grave

risings in Ireland and Scotland, and these gave him great concern.

In August, 1649, Cromwell went to Ireland as Lord Lieutenant and general, and in the following month captured the fortress of Drogheda. No quarter was shown and about 3000 Royalists were slain. Wexford was next captured and sacked, and nearly 2000 were massacred there. Cromwell remained for nine months in Ireland, but his severity, which saved England from a Royalist invasion, brought no reconciliation. The Cromwellian "Settlement of Ireland" indeed proved in the end a disastrous failure.

Cromwell next went to Scotland, where Charles II had been proclaimed King, and won the victory at Dunbar on 3rd September, 1651. When he crossed the Forth and advanced to and occupied Perth, the Scottish army invaded England. Cromwell has been, as a strategist, compared to Napoleon in his conduct of the military movements that followed. He set three separate forces marching from different bases, and these converged, according to plan, so that in the end an army of 30,000 opposed the Royalists at Worcester, where Cromwell won an overwhelming victory. It was his last battle and he referred to it as the "Crowning Mercy".

Parliament voted the victor £4000 a year in addition to £2500 which had been voted in the previous year. The Commonwealth lasted for about two and a half years after the Worcester victory. Then came the military revolution of 1653. On 20th April Cromwell brought a force of musketeers into the House of Commons and, ordering the mace to be removed, forcibly dissolved Parliament. He afterwards summoned a Council of State which constituted a new parliament in which there were five representatives from Scotland and six from Ireland, four of the latter being

English officers and two of English descent. In the end the government fell into the hands of a Council of Officers, and on 12th December, 1653, Cromwell became a dictator under the name of Lord Protector. Three years later he called a new parliament which, when he refused the crown, again installed him as Lord Protector. He dissolved Parliament early in 1657 and his death took place on 3rd September in the following year. His son Richard succeeded as Protector, but voluntarily abdicated on 22nd April, 1659.

CHAPTER XXXIV

The English Homer

John Milton (1608-1674), who had been stricken by blindness, began in his fiftieth year the composition of his long epic *Paradise Lost*, dictating some ten to thirty lines at a time. For about five years (1658-1663) he continued his self-imposed task, receiving no encouragement and often hampered by want of qualified writers to take down the inspired sonorous passages he had composed in solitude and "ever-during dark". He was neglected and ignored by his contemporaries during the Restoration period because he had been a friend and supporter of Cromwell and his party. Yet he had written great poems like *Lycidas*, *Comus*, *L'Allegro*, *Il Penseroso*, &c., which are among the glories of English literature.

After his *Paradise Lost* was completed, Milton began the composition of *Paradise Regained*, which was completed in his fifty-eighth year. Then came the third wonderful literary achievement of his period of blindness—the dramatic poem

Samson Agonistes, which was completed in his "sixties", but not published until five years after his death.

Milton was not only a great poet but a great scholar. Withal, as his literary labours during his period of blindness fully demonstrate, he was a man of as great courage, heroism and resolution as a Drake or a Blake. He similarly devoted his life to serve a great cause. In the annals of England Milton is, indeed, a glorious name. Dryden paid a worthy tribute to his genius when he classed him with Homer and Virgil:

Three poets in three distant ages born,
Greece, Italy and England did adorn.
The first in loftiness of thought surpassed;
The next in majesty; in both the last.
The force of Nature could no further go,
To make a third, she joined the former two.

Milton was born in London in the year that Shakespeare composed his *Antony and Cleopatra*. His father, a scrivener—a professional penman and financier—hailed from Oxfordshire, and took pride in the promise shown by the poet in his early years. He engaged as a tutor for him Thomas Young, a Scotsman who had graduated in arts in the University of St. Andrews, and sent him, when seventeen, to Christ College, Cambridge. Milton had already written verse and early in his student days composed the short poem *On the death of a fair infant*. At twenty-one, a year after graduating B.A., he composed *On the morning of Christ's nativity*, an ode of high merit in which his greatness as a poet was made manifest. In his "thirties" he wrote his poems *L'Allegro*, *Il Penseroso*, *Comus*, and *Lycidas*, which are all masterpieces. In addition, he composed poems in Latin and Italian. He set out on a journey to Italy in 1638 and was welcomed by Italian scholars as a distin-

guished poet, one of them hailing him in an ode as "the swan of Thames". It was during this tour that he visited Galileo to whom he makes reference in *Paradise Lost*:

as when by night the glass
Of Galileo, less assured, observes
Imagined lands and regions in the moon.
(Book V, 261-3).

On his return home Milton supplemented the allowance from his father by taking in pupils. At the time King Charles I was in conflict with Parliament and the poet became prominent as a writer of pamphlets. After the Commonwealth was established, he was appointed Latin secretary to the Council of State, and attended daily at Whitehall, for the government correspondence with foreign states was in Latin. Among his published prose works are letters written by him both for the Council of State and Oliver Cromwell. He suffered for several years from failing eyesight, but continued his official work and, in addition, wrote several weighty political pamphlets. In his forty-fourth year he became quite blind. Thereafter his official duties were divided, and his salary of £288 reduced one-half. When the Restoration took place he had to go into hiding, and he was not out of danger of arrest until a general amnesty was proclaimed. The remainder of his days was devoted to his literary work.

Milton was a handsome man of average height and erect carriage, lofty of brow, with long auburn hair, blue-grey eyes, a shapely curving nose, and pear-shaped face. His greatness as a poet was not realized in his day, but this was due in no small measure to his political opinions, which made him many enemies. He was thrice married. His death took place in his house in Bunhill, and he was interred in the church of St. Giles, Cripplegate, London.

CHAPTER XXXV

A Great Philosopher

The quest of truth was advocated by John Locke (1632-1704), the English philosopher. During the period which followed upon the Restoration, when there was much violence and prejudice in social, political and religious life, he emphasized the need for tolerance and charity and for methodical research and calm and clear thinking so that opinions might be based upon sound evidence. He is regarded as a good influence in the history of progress and culture.

Locke was a native of the Somerset village of Wrington, and when still very young removed with his parents to Pensford, a few miles distant from Bristol. His father, a lawyer who owned some property, had fought on the Parliamentary side during the civil war as a captain in a troop of horse, and from his boyhood Locke was accustomed to hear discussed the great political and religious questions which profoundly moved the people of his native land and caused sharp divisions of opinion and much animosity.

His early education was received at Westminster School, London, where one of his schoolfellows was John Dryden, the poet. He went to Christ Church, Oxford, when twenty, and after graduating there became a lecturer. He subsequently studied medicine, but owing to the political troubles in which he became involved he was forty-two before he could take his degree.

In 1666, the year of the Great Fire of London, he became the friend of Lord Ashley, afterwards Lord Shaftesbury, and subsequently resided with him as a secretary and

friend of the family. His famous *Essay concerning Toleration* was written about this time, but not published until considerably later. When his patron was created Earl of Shaftesbury and appointed Lord High Chancellor of England, Locke received political appointments. After Shaftesbury's fall, he went to France on account of the state of his health, being a victim of bronchitis. He returned home in 1679, and three years later Shaftesbury, who had been involved in a plot to dethrone Charles II, who was governing his kingdom without a parliament, fled to Holland, where he died. Locke also found it necessary to seek refuge in that country, in which he remained for about six years, not returning home until the Revolution of 1688, which brought William of Orange and Queen Mary to the throne.

During his exile Locke wrote his renowned *Essay on the Human Understanding*, which was published in 1690. In it he gave a new direction to philosophic thought and for a long period he occupied a leading place among the philosophers of his native land. His urge to investigate original sources of knowledge exercised a healthy influence on the thought of succeeding generations. Horace Walpole, writing late in the eighteenth century, declared that Locke was the first to introduce common sense into philosophy and no doubt expressed the opinion of the average cultured man of his time.

Locke's other works include *Thoughts concerning Education* and *A Treatise on the Conduct of the Understanding*. He advocated an educational system which would embrace the entire field of human knowledge and develop the understanding and reasoning powers. Mere memorizing he regarded as insufficient, and he was opposed to corporal punishment, except for obstinate disobedience. In the *Treatise* he advocated the study of mathematics so that men

"having got the way of reasoning which that study necessarily brings the mind to, they might be able to transfer it to other parts of knowledge as they shall have occasion". He made a strong plea for independent thinking, suggesting that industrious readers might be "making their understanding only the warehouse of other men's lumber".

CHAPTER XXXVI

A Historic Apple

At intervals in the history of mankind a great genius is born, who devotes his life to the quest of knowledge and makes discoveries which open up new fields of inquiry and make more progress possible. One of these was Sir Isaac Newton (1642-1727), the discoverer of the law of gravitation. He was born in the manor house of Woolsthorpe, Lincolnshire. When he was a pupil at Grantham Grammar School his chief hobby was mechanics. He made a toy windmill which in calm weather was made to revolve by a mouse. The little animal kept a tread-wheel whirling by trying to reach some seeds of corn laid above it. Then Newton invented a water-clock, a clever bit of work, because he had to make very exact calculations so that it would not go too fast or too slow. Another juvenile invention was a wheeled vehicle which was set in motion by working a handle. He had in his mind the idea of a motor-car.

After becoming dux of his school Newton went to Trinity College, Cambridge, matriculating when eighteen years of age, and took the degree of B.A. in January, 1665. He was only twenty-two when in Woolsthorpe he began to ponder

over the problem of gravitation. One autumn day, while sitting alone in the manor garden, he saw an apple falling from a tree. This very ordinary happening set him thinking. He realized that the apple fell because of the power of gravitation, which drew it downward, and that that power was drawing everything towards the centre of the earth, the constant pull keeping the world together. He subsequently considered the problem in relation to the moon, coming to the conclusion that it was kept in its orbit by gravitation to the earth. Then he realized that the various planets revolved in their orbits by gravitating towards the sun.

Newton set himself to make calculations regarding the force of gravitation, using that measurement of the earth which at the time was supposed to be correct. When he found that he could not prove his theory in relation to the moon, he gave his thoughts to other matters.

About twenty years later, Newton again took up the problem of gravitation. A more accurate measurement of the earth had been calculated by a scientist named Picard, and by using it Newton was able to prove that the moon is kept revolving in its orbit by the same power which makes an apple fall from a tree. In time he similarly solved the problem presented by the planets. His discoveries were published in his forty-fifth year in his great book commonly referred to as *Newton's Principia*. His fame extended throughout Europe and among the honours he received was that of knighthood from Queen Anne, which was conferred in 1705. He died in his eightieth year, and was buried in Westminster Abbey, London.

CHAPTER XXXVII

A Great English General

John Churchill, Duke of Marlborough (1659-1722) was one of the great generals who were "makers of history", and he has been worthily compared to Gustavus Adolphus. He was the second son of Sir Winston Churchill and his wife, Elizabeth, daughter of Sir John Drake.

Marlborough was born in Ash House, near Axminster, Devon. At the age of twelve he became a page to the Duke of York (afterwards King James II), and in his eighteenth year was gazetted as ensign in the King's Regiment of Foot Guards, now known as the Grenadier Guards. During 1668-1669 he was on active service at the siege of Tangier in the regiment which became "The Queen's" (Royal West Surrey). He rose to the rank of captain and after distinguishing himself at the siege of Maestricht, became a lieutenant-colonel. He married Sarah Jennings, an attendant on Princess Anne who subsequently became queen, and in 1682 had conferred upon him the title of Lord Churchill of Eyemouth. King James II made him Ambassador to France, and on his return raised him to the rank of Baron and appointed him a general. Marlborough suppressed the Monmouth rebellion in 1685. As an ardent Protestant he was opposed to the Roman Catholic policy of King James, and espoused the cause of William Prince of Orange, informing the King by letter that he did so owing to "the inviolable dictates of my conscience and a necessary concern for my religion". By William III he was gazetted Lieutenant-General of the forces and created Earl of Marlborough. On 20th January, 1692, he was suddenly

dismissed from all his offices, and in the month of May was arrested and sent to the Tower of London with other persons of note on suspicion of being concerned in a plot to bring James II back to the throne. All were subsequently released and Marlborough was restored to favour after the Peace of Ryswick (1697).

At the beginning of the eighteenth century Marlborough played a great part as a maker of history by conquering the territory we know as Belgium, which before his time was possessed by Spain and called the "Spanish Netherlands". Then it came under the rule of Albert of Austria who had married a Spanish princess. Albert left no heir and Holland and France coveted the territory.

In 1702 France, whose ally was Bavaria, having seized the southern Netherlands, war was declared against its ruler, Louis XIV, by Britain, Holland and Germany, and Marlborough became commander-in-chief of the allies. He had under his command a force of 60,000 of which 12,000 were British. His first campaign was a successful one. He captured Venloo, Auremonder and Liège, securing the line of the river Meuse from Liège to the sea. Queen Anne made him a Duke in recognition of this achievement, and assigned him a pension of £5000 a year for life.

In 1703 Marlborough was greatly hampered by the Dutch, who constantly interfered with his plans, but he captured Bonn on the Rhine and also Huy and Limburg on the Meuse, and thus prevented the French from invading Holland. If Marlborough had had his way, he would have also taken Antwerp and Ostend.

The campaign of 1704 was directed by Marlborough to counter the French plan of operating in the Danube valley and marching on Vienna. He did not reveal to the Dutch his intention to strike at the main army of the French on

the Danube, but pretended he was to co-operate with the Germans on the Moselle, and then advance towards Paris. His campaign culminated in the crushing defeat of the French and Bavarians at Blenheim on 13th August, which saved Germany and Vienna. Tallard, the French commander, was taken prisoner with 11,000 of the troops while 12,000 were slain. The allies casualties were about 12,000 of whom 4500 were slain.

In 1705 Marlborough would have invaded France by the Moselle valley, but was prevented by the Dutch. His August operations are of great interest because he threatened Brussels and would have fought the French, who were defending it, at Waterloo had not Slangenberg, the Dutch commander, refused to move. Slangenberg was afterwards deprived of his command.

The battle of Ramillies was fought in 1706. Villeroy, the French commander, was outgeneralled and lost about 15,000 men and fifty guns. Marlborough quickly followed up his success and, capturing Ghent, Bruges and Antwerp, drove the French to their own frontier.

In 1707 Marlborough, by exercise of wise diplomacy, prevented Charles XII of Sweden from becoming an ally of France. Another great military success was achieved in the following year. The French under Vendôme had advanced in Flanders, but Marlborough defeated them heavily at Oudenarde on 11th July. Darkness alone saved the French army from being captured or destroyed. Brussels and Lille were taken later in the year. The battle of Malplaquet was fought on 11th September, 1709 and, although the allies lost heavily, the French were defeated and Mons was captured a month later. The military genius of Marlborough thwarted the ambitious designs of France. He was a great and successful commander, an accomplished strate-

gist, and a skilful tactician. His successes in battle were made possible in the first place by his personal reconnaissances of the position of the enemy and then as a tactician who, in action, found and struck at a weak point, making quick and shrewd decisions. He possessed in a marked degree those qualities of personal courage, high intelligence and sound judgment and resolution which are necessary for leadership in war. "Few generals," says a historian, "have been so fortunate; he was always victorious and never suffered any serious check."

After the battle of Malplaquet he asked to be made "Captain-General" for life, but his political enemies at home feared he wished to become a military dictator like Cromwell. Queen Anne was ultimately prevailed upon to dismiss him and the results were disastrous, for a peace was arranged with the French on less favourable terms than Marlborough would have secured. He left England in disgrace, but was honoured as a great liberator in the Netherlands. George I restored him to the post of captain-general. His latter days were rendered gloomy by ill-health and in the end his mind was affected by paralysis.

CHAPTER XXXVIII

Anson's Voyage Round the World

Lord George Anson's name is chiefly associated with his famous voyage round the world, in which he proved himself a worthy successor of Drake. Like Drake, too, he was a naval reformer. During a long tenure of office on the Board of Admiralty he did much to raise the navy to a high

pitch of efficiency by reorganizing the dock services, improving the construction of ships and gunnery, establishing on a permanent footing the corps of marines, organizing expeditions and planning the strategy of campaigns. He was a man of great courage and quick and good judgment, very modest and most sparing of speech. It was Sir Charles Williams who referred to him as one who had "been round the world but never in it". He was one of those "silent men" who expressed themselves in actions rather than words.

Anson (1697-1762) was the youngest son of William Anson of Shugborough, Staffordshire, and grandson of William Anson, a distinguished barrister in the reign of James I. As a boy he was a great reader of narratives of voyages, and he joined the navy before he was fifteen. He became a Post Captain when only twenty-six and was sent to the American coast to protect the young colonies against the Spaniards. During his seven years service in this connexion, he earned the gratitude of the planters and traders of South Carolina.

When war was declared against Spain in October, 1739, he had command of the *Centurion* and in the following year he was selected to command a squadron to attack Spanish ports and shipping on the west coast of America. The cause of the war was the attacks by Spaniards on British vessels. A committee of the House of Commons examined witnesses in this connexion and a prominent complainant was a Scottish skipper named Jenkins of the Glasgow vessel *Rebecca*. He told how the Spaniards had plundered his cargo and maltreated him and his crew. One of his ears had been cut off and placed in his right hand, and he was asked to carry it to his King (George II), stating that the Spaniards would treat His

Majesty in like manner if they caught him. Asked what his feelings were like at the time, Jenkins answered, "I recommended my soul to God and my cause to my country."

In *Anson's Voyage Round the World*, compiled by the Reverend Richard Walter, chaplain of the *Centurion*, the story of the famous expedition, which set out in 1740 and returned in 1744, is most vividly related. The squadron consisted of six warships and there were two victuallers which were to accompany the expedition until there was room on the other vessels for the extra provisions. Great hardships were experienced. About two months after sailing scurvy broke out, and it proved to be the curse of the whole voyage. Two of the war vessels turned back from Cape Horn and another was wrecked. When Anson's flag-ship, the *Centurion*, reached the Pacific the other ships were missing. The island of Juan Fernandez was a rendezvous and when it was reached only some 200 of the 500 men originally on board the *Centurion* were alive, and many were invalids. The *Gloucester* arrived about three weeks later with only eighty-two survivors. The *Trial* did not suffer so badly from scurvy, but on its arrival had also to land invalids. After twelve months Anson had only 626 men on the three warships out of the 961 who had left England.

It was impossible to carry out the intention of attacking the larger Spanish settlements of Callao, Lima and Panama, but Anson resolved to prey on the shipping of the enemy. The warships separated for a time and the little *Trial*, which had only eight guns, compared with the *Centurion's* forty, captured a big merchant ship. The *Trial* had become unseaworthy and was scuttled and sunk, the Spanish vessel re-named *Trial's Prize*, taking its place. The *Centurion* and *Trial's Prize* afterwards sailed towards the city of Paita.

Anson landed a force which captured and burned this trading centre, taking treasure to the value of about £30,000. Meantime the *Gloucester* captured two Spanish ships, in one of which were found double doubloons and dollars to the value of nearly £12,000. The Spanish prisoners were landed and the prizes set on fire. Not long afterwards the *Gloucester* suffered so severely in a storm that she had to be abandoned and blown up. Anson's squadron was then reduced to a single ship, but he fought and captured a Spanish treasure galleon, the gold and silver taken being worth about £400,000. He afterwards sold this vessel to merchants and then set sail for home across the Indian Ocean, arriving at Spithead on a June evening. The *Centurion* had circumnavigated the globe, and had made the Spaniards "very fearful for the safety of their South American settlements." Withal, Anson had, in face of great difficulties and tribulations, proved himself a leader of determination, tact, skill and resource.

Three years after his return, Anson, having become an admiral of the white, won a victory over the French near Cape Finisterre. He was afterwards raised to the peerage and subsequently became First Sea Lord.

CHAPTER XXXIX

A Benefactor of the World

James Watt (1736-1819) is, on his monument in the chapel of St. Paul, Westminster Abbey, London, lauded as the man who, by his "improvement of the steam engine, enlarged the resources of his country, increased the power of man,

and rose to an eminent place among the most illustrious followers of science and the real benefactors of the world ". He was the discoverer of the most effective method of using steam as a motive power, and, as the late Lord Kelvin has reminded us, " the triple and quadruple expansion engine of our day all lies in the principle Watt had so fully developed."

Watt was born in the Scottish town of Greenock on 19th January, 1736. His grandfather had migrated from Aberdeenshire to engage in business connected with shipping, and his father, who was likewise employed, became very skilled in dealing with navigation instruments. As a boy Watt made mechanical toys, and a story is told that his interest in steam was first aroused by watching a boiling kettle, the lid of which he took off and replaced several times. His aunt chided him for wasting his time.

At seventeen Watt began to work for a Glasgow business man who sold and repaired spectacles, made fishing-rods and tackle, mended musical instruments, etc. Two years later he went to London and there received a twelve month's training with a mathematical-instrument maker. An illness compelled him to return home and, after recovering, he wished to start in business for himself in Glasgow, but found that according to the regulations in force at the time, he could not do so, because he had not served an apprenticeship of seven years as an instrument maker. He was, however, given employment at the University as a repairer of instruments. A room was set aside for him as a workshop and there he made the discovery which was to give the world the modern steam engine.

Attempts to utilize steam had, during the seventeenth century, brought some crude pumping engines into use. In 1705 Thomas Newcomen, a Dartmouth locksmith, im-

proved an existing engine by producing, by means of cold water, a vacuum below a steam-raised piston, causing it to fall down again. The water introduced to condense the vapour caused, however, a great loss of power, as Watt recognized when studying a model of the Newcomen engine at Glasgow University. He applied his thoughts to the problem, and one day in 1765 he solved it during the course of a walk. He realized that to keep the cylinder hot, he must lead the steam into a separate condensing compartment and thus do away with the necessity of introducing a jet of cold water. He soon proved his theory by experiment and thus invented what became known as the "condenser". His researches were then directed to economize steam until his engine was complete.

Two years went past before Watt's invention was applied on a large scale. Then he became the partner of Dr. Roebuck, founder of the Carron iron works at Falkirk, to whom he ceded two-thirds of his patent. An engine was constructed on the new principles and proved a great success. Dr. Roebuck's affairs, however, became involved in difficulties and Watt's energies were directed to canal construction.

In 1774 the inventor got into touch with Mr. Boulton of Soho, near Birmingham, a man of great enterprise, and the firm of Boulton and Watt came into existence. Watt's patent had only a few years to run, but an application was made to Parliament for a prolongation of it and one of twenty-five years was granted. At first the engine was used for pumps at mines, but Watt made further improvements and produced the double-acting engine. His provision for industrial works of great power with regularity of action inaugurated a new commercial era, increasing trade and employment. Watt made possible the invention of both

the railway engine and the steamer. The poet Wordsworth did not exaggerate when he paid a tribute to Watt's genius by declaring that he was "perhaps the most extraordinary man that this country has ever produced."

CHAPTER XL

Makers of the Cotton Industry

Three men, James Hargreaves, Richard Arkwright and Samuel Crompton, brought about, by their activities as inventors, a great industrial revolution which enriched their native land, provided employment for thousands of workers, developed cotton growing in the United States of America and increased sea trade on the Atlantic and the routes towards the East.

James Hargreaves (1720-1778) was a native of Blackburn and a carpenter by trade. When he was a young man, raw cotton was transformed into yarn by a spinning wheel which had a treadle worked by foot. One day he saw a spinning wheel which had been overturned. The wheel continued revolving and the idea of the machine, which became known as the "spinning jenny", occurred to him. This is said to have been in 1764, but his invention was not patented until 1770. At first the "jenny" had eight spindles, but in 1770 there were twice that number; by 1784 the number had risen to eighty and in time a "jenny" with a hundred and twenty spindles was manufactured.

A drawback in the "jenny" was that its product could be used for the weft alone, not being suitable for the long threads of the woof.

This was where Richard Arkwright (1732-1792) came in. He introduced spinning by rollers. Arkwright was a native of Preston and the youngest of thirteen children. His parents were poor and he began life as a barber. When he removed to Manchester, he rented a cellar at the entrance of which he placed a sign inscribed, "Subterranean shaving with keen razors for one penny". The other barbers in the neighbourhood charged twopence, and as they suffered loss of customers, reduced their charge by a half. Then Arkwright shaved his customers for a halfpenny. He was an energetic as well as a hard-working man, although a victim of asthma, and he made and saved money.

At Manchester he took a great interest in cotton spinning and wondered how the woof threads could be hardened. One day he saw some men lengthening red-hot bars of iron between rollers, and it struck him that cotton might be similarly treated. He employed a friend named Kay, a Warrington clockmaker, to construct a machine with a double set of rollers, one set to revolve three times faster than the other; and, when he tested it, he found that the thread produced could be used for the woof. He kept his invention secret, pretending to enquirers that he was attempting to solve the problem of perpetual motion. He had good reason for doing so, because there had been riots among the unemployed spinners after the introduction of the "jenny" which produced over thirty threads with the labour formerly required for producing one. There followed a smashing of "jennys" and Hargreaves was almost ruined. Arkwright removed to Nottingham and secured as partners Jedediah Strutt and Samuel Need. He patented his invention in 1769 and a small factory was opened, the motive power being provided by horses. The firm soon removed to Crumford, Derbyshire, where water power was

available, and a new factory was opened there in 1771. For a time there was a difficult struggle, the yarn being refused by many on the ground that it was inferior to the hand-spun variety. Then the Arkwright firm made cotton calicoes, a new branch of manufacture. The ex-barber prospered, for his firm originated the factory system of the cotton industry. In eight years there were 300 employees. Other factories were opened and one at Manchester employed 600 hands. By 1782 the firm had £30,000 invested in factories and £60,000 in other ventures. The cotton industry was then employing about 5000 persons. Arkwright's patents were frequently infringed and the firm's famous litigations began. The ex-barber had dreams of buying all the cotton in the world's markets and, if he had been successful in his claims against infringers of his patents, he would have become one of the first Trust magnates. As it was, he amassed a great fortune and was knighted as a public benefactor by King George III in 1786.

Samuel Crompton (1753-1827), a native of Tonge, Bolton, was only twenty-one when he invented his machine which became known as the "Hall-i'-th'-wood" and the "Muslin Wheel" and ultimately the "Mule". It was perfected in 1779 and for a time he made use of it himself. His invention combined the principles of Hargreaves' "jenny" and Arkwright's rollers and had at first forty-eight spindles. It produced a very superior thread. Arkwright's yarn tended to be uneven and was lacking in the quality of "stretch". For both warp and woof Crompton's improved method was a notable advance.

The "mule", not having been patented, was widely adopted. A public subscription was organized on the inventor's behalf, but owing to the outbreak of war in 1803 did not yield much. In 1812 Parliament awarded Crompton

the sum of £5000 and he set up in business but did not prosper. He was living in poverty in 1824 at the age of seventy, and a second subscription secured for him an annuity of £63. The contributors included French and Swiss spinners who were using his invention. Crompton enjoyed his annuity for two years, dying on 26th June, 1825. In 1862 a monument was erected over his grave in his native parish and his statue was placed in Nelson Square, Bolton. His "Mule", which has been greatly enlarged and improved, still remains in use. Its rival is the "Ring Spinning Frame" which has been developed from the old "Water Frame". In the development of the cotton industry the invention of Samuel Crompton has played a most important part.

CHAPTER XLI

Early English Novelists

Robinson Crusoe is one of the most famous stories in the world and, like *Don Quixote*, has been translated into many languages. It was originally published in London on 25th April, 1719, and a most interesting fact is that it is the pioneer English novel.

The author, Daniel Defoe (1659-1731), had reached his sixtieth year when the first and best part of his immortal story was issued. He had never visited the Pacific to gaze on the lonely island he makes so real for us, nor had he ever lived the life of a solitary. Defoe had a wonderful, creative imagination and was a master in the art of making a character live so that readers can share in his emotions and

thoughts. We cannot help feeling that Robinson Crusoe actually lived and had all those experiences with which we are so familiar.

Defoe became greatly interested in the South Sea islands by reading the published accounts of the voyages of Captain Cook and other explorers, including William Dampier (1652-1715) who in 1697 published his book entitled *Voyage Round the World*. In this work Dampier told about the Pacific islands of Juan Fernandez, on one of which an American Indian lived a solitary life for over three years. Then in 1713 there appeared in the London magazine *Englishmen* an account of the experiences of the Scottish sailor, Alexander Selkirk (1676-1721), a native of Largo, Fife, where a monument has been erected to his memory. Selkirk had been a member of a crew of a buccannering ship and quarrelled with the captain. At his own request he was put ashore on the main island of Juan Fernandez, on which he remained for four years and four months. He was rescued by Captain Woodes Rogers in 1709 and afterwards served in the navy, dying on board H.M.S. Weymouth in 1721. The experiences attributed to Robinson Crusoe were very different from those of Selkirk. Defoe imagined himself as a man placed in similar circumstances and told his immortal story in his own way.

Another author who was inspired by the experiences of Alexander Selkirk was William Cowper (1731-1800) who composed "Verses supposed to be written by Alexander Selkirk during his solitary abode in the island of Juan Fernandez". These begin with the lines:

I am monarch of all I survey,
My right there is none to dispute;
From the centre all round to the sea,
I am lord of the fowl and the brute.

Defoe was the son of a butcher named James Foe in the parish of St. Giles, Cripplegate, London, and he added "De" to the family surname about 1697. He became an active political journalist and in 1706-7 was in Scotland, where he served as a secret agent, doing his utmost to promote the union of the English and Scottish parliaments. In 1720 he published the continuation of *Robinson Crusoe* and the *Life and Adventures of Duncan Campbell*. His novel *Moll Flanders* was issued in 1722 and for a long time remained popular. Defoe died in Ropemakers' Alley, Moorfields, London, in his seventy-second year and was buried in Bunhill Fields.

Another wonderful work of fiction appeared in 1726. This was the immortal *Gulliver's Travels* by Jonathan Swift (1667-1745), Dean of St. Patrick's, Dublin, a brilliant writer and satirist. The story of Gulliver's wanderings was much more remarkable than any found in the books of voyages and travels which were so popular at the time, and it was intended as a political "skit", the busy, important dwarfs representing the people of one party and the giants those of another. Its original character has long been faded and it is read simply because the story is a fascinating one. The characters may be grotesque, but yet seem to be very real. Like Defoe, Swift had the wonderful faculty of making his story convincing and most entertaining.

In 1740 appeared a new type of novel. This was *Pamela, or Virtue Rewarded* by Samuel Richardson (1689-1761). The author's father was a London joiner who, finding he could not afford to send Samuel to a university, had him apprenticed to a printer. In 1719 Richardson set up in business for himself. He was in his fiftieth year when he began to write his first novel in the form of a series of letters. It dealt with everyday life and became popular, although

nowadays it seems rather dull and sentimental. His second novel *Clarissa, or the History of a Young Lady* came out in seven volumes in 1747, and 1748 and it made the author famous not only in this country but on the Continent. This work, like the previous one, was also written in the form of letters and it tells of a beautiful young woman who suffered much at the hands of a villain. The story unfolded is a pathetic one, and it was said of Richardson that "he made all Europe weep". His third novel, *The History of Sir Charles Grandison* was published in 1753. Richardson had a remarkable knowledge of the female heart and mind, and his women characters are finely drawn. He strongly influenced later novelists in his native land and also in France and Germany.

After Richardson's *Pamela* appeared, Henry Fielding (1707-1754), who had been known for a good many years as an author of plays and as a satirist, set himself to write a burlesque of it. He was a great admirer of Cervantes and had to his credit an amusing play entitled *Don Quixote in England*. But although he intended to make Richardson's pathetic tale seem as absurd as Cervantes did the romantic novels of his time, he changed his plan after writing two chapters of a novel called *The History of the Adventures of Joseph Andrews and his friend Mr. Abraham Adams, written in Imitation of the Manner of Cervantes*. This work is now known as *Joseph Andrews*. Fielding, as soon as he introduced into his story a fine character named "Parson Adams", became very serious and proceeded to write quite a new kind of English novel, paying attention to his plot and giving studies of life of much greater breadth and depth than Richardson. This novel appeared in February, 1742. Fielding's masterpiece, *Tom Jones*, was published seven years later. It was the real forerunner of the modern novel.

The author created realistic characters and told his story in vivid and unaffected language, with flashes of humour and touches of irony and satire. Compared with his very human characters, those of Richardson seem affected and inclined to pose. Fielding did not fear to reveal the weaknesses of the individuals in whose sayings and doings he interested his readers, but yet contrived to make them likeable or amusing. Nor did he confine his attention to "genteel society"; he studied life as a whole and presented it boldly and graphically. His third novel *Amelia* was published in 1751. The chief character was drawn from his tender memories of his first wife, a beautiful woman of fine character, who died young. There is no finer heroine in English fiction.

Fielding was the son of a general and a grandson of the Earl of Desmond whose brother was the second Earl of Denbigh. He was educated at Eton and afterwards at the University of Leyden in Holland where he studied law. He began to write plays when only twenty-one, and ten years later became a law student of the Middle Temple, London. In June, 1740, he was called to the Bar and in 1748 he received the appointment of Justice of the Peace for Middlesex and Westminster, and thus became a Bow Street magistrate. His health broke down in June, 1754, and he went on a trip to Lisbon where he died and was buried.

In 1748, six years after *Joseph Andrews* was published, and before *Tom Jones* was finished, a new novelist, Tobias George Smollett (1721-1771), became known to the public as the author of *The Adventures of Roderick Random*. This was a story of the navy and had been drawn from his own experiences of sea-life. Smollett, who was born near Renton in Dumbartonshire, and studied medicine in the University of Glasgow, served as a surgeon on H.M.S. *Cumberland*

and took part in the siege of Cartagena in 1741. When the British fleet abandoned operations and went to Jamaica, he met there Miss Nancy Lascelles whom he married. He left the navy in 1744 and set up as a surgeon in Downing Street, London, but was not very successful. In 1750 he took the M.D. degree at Aberdeen and practised in Bath.

From his eighteenth year Smollett had been an industrious writer of verse, poetic drama and prose. It was as a novelist, however, that he attained success. *Peregrine Pickle*, published in 1751, was another naval story with gleams of extravagant humour and a good deal of coarseness. His best novel was his last—*Humphry Clinker* (as he spelled the name), published in 1771. It is an amusing story with well-drawn characters and written in an easy and lucid style. Like Fielding, he was a great admirer of Cervantes and he translated *Don Quixote* into English in 1755. Sir Walter Scott admired Smollett's work and praised it with enthusiasm. He certainly followed Smollett in writing glowing descriptions of scenery in verse and prose.

CHAPTER XLII

A Maker of Germany

A military genius who disliked war and preferred the company of men of learning and culture to that of soldiers—such was Frederick the Great (1712–1786), King of Prussia. He became a famous and accomplished leader because he was a man of intellect who made a serious study of the science of war and the heroic deeds of great leaders of the past, and also because he was of obstinate character and

very secretive. As a lad, he was refined, witty and somewhat wayward, much given to writing poetry and playing the flute. His mother, a princess of Hanover with Stewart blood in her veins, influenced him greatly. She preferred French to German and was strongly pro-French in her leanings. Frederick was so devoted to the French language and literature that he never really spoke German with fluency and ease. He aroused the ire and even the positive dislike of his father by his distaste for drill ground and camp. King Frederick William I, a coarse blustering military martinet, who drank heavily, took delight in soldiering and especially "clock work drill", and preferred a barracks to a palace and the company of a tavern to that of French-speaking ladies who were interested in music and literature and devoted to French fashions of attire and French cookery.

When this harsh father undertook to make a man of his intellectual son, he bullied him in public as well as in private, and did not hesitate to strike him with his cane in presence of his soldiers. At eighteen the Crown Prince, goaded to rebellion, planned to take flight to France. He was intercepted just in time and for some years afterwards was forced to live under the strictest discipline. In his twenty-first year he married Princess Elizabeth of Brunswick-Bevern who had been selected for him by his royal father.

During his years of retirement Frederick devoted himself to the study of history, politics and estate business. He gleaned from the lives of the great soldiers of the past a knowledge of the science of war, which was to prove of greater value to him than the mere handicraft of war as taught in drill-grounds and camps. His baptism of fire was received a few years before his father's death in connexion with the war of the Polish Succession, and he proved him-

self courageous in action. It was then the father realized that the son was of sterner and more resolute character than he had ever realized.

Not long after coming to the throne in 1740, Frederick invaded Silesia, to which he had certain hereditary claims. This province was at the time possessed by Austria. The first battle at Mollwitz was won because the Prussian army had been so well trained and disciplined by the late king, and although the tactics of Field-marshal Schwerin had been faulty. Frederick subsequently became his own general, and after winning the battle of Chotusitz in 1742, arranged a peace which lasted for two years, retaining Silesia. When war broke out again Frederick was similarly successful. A ten years peace followed. Then came the Seven Years' War which broke out in 1756. France, Russia and Sweden became the allies of Austria while Great Britain assisted Frederick with money and an observation army in Hanover. Against the Prussian force of 150,000 were arrayed the allied armies, about 430,000 strong.

Frederick struck the first blow by advancing against Prague but suffered a reverse in the battle of Kolin. Meantime, on his left, 100,000 Russians were threatening Berlin, while on his right a French army threatened Dresden. Frederick had dealt roughly with the Austrians and, after retiring and marching 170 miles in a fortnight, he struck at the French force at Rossbach on 5th November, 1757, winning a stinging victory. Then he turned back towards Silesia. The Austrians had advanced triumphantly under Prince Charles and were in occupation of Breslau. Frederick defeated a superior force at the battle of Leuthen on 5th December, proving himself a masterly tactician. Following up this success he drove the Austrians out of Silesia with heavy losses. In the following year Frederick, after opera-

ting against the Austrians in Moravia, had to move his main army into Prussia, the Russians having advanced as far as Frankfurt. With 30,000 men he defeated 50,000 Russians at Zourndorf, but was unable to pursue the retreating enemy. He had, instead, to hasten back to save Dresden and he was successful in holding back the Austrians. In 1759 and 1760 Frederick was kept active, striking now at one army and then at another. He met with misfortunes, but his stubbornness only increased. Silesia was still retained. During the winter of 1761-2, Frederick, who had never been too robust, suffered a break-down in health, but his strong will triumphed, and his preparations for continuing the war went on. His military genius developed greatly, and as he kept his plans secret, his enemies were never sure when and where he would strike next. His battle plans were not according to the text-books, but conceived independently by himself on the scene of action, and he invariably "did the unexpected". He was wont to say, "Always lead the enemy to believe you will do the reverse of what you intend to do." He inspired his army with complete confidence in his leadership. Every battle he fought had a purpose and a success had consequently far-reaching effects.

When peace came in 1763 Frederick retained Silesia and then became a great influence in the affairs of Germany and in international politics. In 1772 Poland was dismembered and he received a large share. He concluded, in 1785, with Saxony and Hanover, the Confederation of German princes. When he died his kingdom had increased by 29,000 square miles and his army to 200,000 men.

CHAPTER XLIII

Pioneer Women Writers

Women writers were coming into prominence in the eighteenth century. At an earlier period they were not numerous, less attention having been paid to the education of daughters than of sons. Queen Elizabeth was, as has been indicated, a pioneer woman writer, and other highly cultured ladies of her time included Lady Jane Grey, the Countess of Burleigh (Mildred Cooke) and Margaret More, daughter of Sir Thomas More. Lady Fanshawe, wife of Sir Richard Fanshawe, the seventeenth century poet and translator of the *Lusiads* of Camoens, the Portuguese poet, wrote his memoirs, in which she proved herself an excellent prose stylist. The memoirs of Lucy Hutchison, another seventeenth century writer, are similarly of marked literary interest and value. She was a wonderful linguist, and translated part of Virgil's *Æneid* and also Lucretius into English verse. Her husband was one of the judges of King Charles I, but afterwards opposed Cromwell's usurpation.

Margaret, Duchess of Newcastle, who died in 1674, was a poetess of no small merit, her best poem being "The Pastime and Recreation of the Queen of Fairies in Fairy-land":

She on a dewy leaf doth bathe,
And as she sits, the leaf doth wave;
There like a new-fallen flake of snow
Doth her white limbs in beauty show.

Mrs. Katherine Philips (1631-64), daughter of a London merchant, who was praised by Dryden and other contemporary writers, wrote musical verse under the poetic name

of "Orinda" on subjects like love, friendship, the soul, pleasure, and death.

During the Augustan age, when the artificial style of writing was so fashionable and poets' themes were rarely rooted in the love of beauty, the Countess of Winchelsea (Anne Kingsmith) who died at sixty in 1720, was inspired by the attractions of external nature. Wordsworth regarded her as eminently meritorious in this respect. Her "nocturnal Reverie" is of especial interest in the history of poetic art. Before James Thomson composed his "Seasons", she wrote vividly and with charm of country scenes,

While sunburnt hills their swarthy looks conceal,
And swelling haycocks thicken up the vale,
When the loosed horse now, as his pasture leads,
Comes slowly grazing through the adjoining meads . . .
When nibbling sheep at large pursue their food,
And unmolested kine rechew the cud;
When curlews cry beneath the village walls
And to her straggling brood the partridge calls . . .

Lady Mary Wortley Montague (1689-1762) a native of Thoresby, Notts, was a learned and cultured woman who wrote verse and prose. Her letters written from France, Italy and Turkey reveal her wit and literary ability, and are regarded as models of their kind. They were edited by Lord Wharncliffe, her great-grandson in 1837, and, later, in 1861 and 1887, fuller editions were published.

Lady Grizel Baillie (1665-1746), daughter of the Scottish Earl of Marchmont, was a writer of Scottish vernacular verse, her best-known song being "Were na my heart light". She was a forerunner of the school which reached its highest level in the works of Robert Burns.

Another Scottish woman poet of merit was Lady Elizabeth Wardlaw (1677-1727) who is regarded by some as the

author of the famous ballad "Sir Patrick Spens", or at least as the one who revised it:

The King sits in Dunfermline town
 Drinking the blood-red wine;
 "O where will I get a skeely (skilful) skipper,
 To sail this new ship o' mine?"

Shelley in his "Skylark" declares that "Our sweetest songs are those that tell of saddest thought." There is certainly sadness and sweetness in "The Flowers of the Forest" of which there are two versions. Alicia Cockburn (1713-95) wife of an Edinburgh advocate, wrote the version beginning,

I've seen the smiling
 Of fortune beguiling
 I've felt all its favours and found its decay.
 Sweet was its blessing
 Kind its caressing
 But now 'tis fled—fled far away.

The other version by Jean Elliot of Minto (1727-1805) begins with the stanza:

I've heard the lilting at our yowe-milking,
 Lassies a-lilting before the dawn of day;
 But now they are moaning on ilka green loaning—
 The Flowers of the Forest are a' wede away.

Jean Elliot's song is a lament for the losses sustained by the Scots who were defeated by the English in the battle of Flodden. It is less seldom sung than the other, however, which, although usually taken for a Flodden lament, really referred to a financial disaster involving a number of Selkirkshire gentlemen. Both are sung to the same air.

A pioneer woman novelist was Sarah Fielding (1710-68), author of *David Simple*, *The Governess* and *The*

Countess of Dellwyn. She was the sister of Henry Fielding.

Mrs. Elizabeth Carter (1717-1806), a native of Kent, wrote somewhat artificial poetry, and was a famous Greek scholar. In 1758 she had published her scholarly book, *All the Works of Epictetus now Extant, translated from the Greek.*

Charlotte Lennox (1720-1804), whose father had been Lieutenant-Governor of New York, wrote several novels, including *The Female Quixote*, which has considerable merit.

As a literary critic Elizabeth Montagu (1720-1800) dealt chiefly with Shakespeare and was praised at home and on the Continent. Her father was a Yorkshire squire.

Hester Chapone (1727-1801), daughter of a Northamptonshire squire, was an accomplished and attractive essayist. She contributed to Dr. Johnson's *Rambler*.

A pioneer woman politician, who wrote history with republican leanings, was Catherine Macaulay (1731-91) daughter of a Kentish proprietor. Another woman republican was Helen Maria Williams (1762-1827), a native of Berwick and daughter of an army officer. She went to Paris to stay with her sister, the wife of a Huguenot pastor, was imprisoned by Robespierre, and narrowly escaped execution. She wrote hymns, the best known being "My God, all nature owns Thy sway" and "While Thee I seek, protecting Power".

Anne Plumptre (1760-1818), whose father was President of Queens' College, Cambridge, was a friend of Miss Williams and likewise a republican. She translated German literature and wrote novels and accounts of her visits to France, Germany and Ireland. Clara Reeves (1729-1807), a native of Ipswich, wrote some fiction which gives her a place in the history of romantic literature.

Mrs. Piozzi, previously Mrs. Thrale (1741-1821), who was greatly admired by Dr. Samuel Johnson, was the author of several works, including *Anecdotes of Dr. Johnson*. She was a vivacious and charming lady with marked literary leanings. Her birthplace was Bodvel in Carnarvonshire.

Anna Seward (1747-1809), a literary critic who wrote verse and a poetical novel *Louisa*, corresponded with Sir Walter Scott, and her letters were published. She was born at Eyam rectory in Derbyshire.

Hannah More (1745-1833) a native of Stapleton village, now part of Bristol, wrote novels with a religious purpose and had some success as a playwright, her tragedy "Percy", produced by Garrick, running at Drury Lane Theatre, London, for twenty-one nights. She wrote poetry which made appeal in her time, but is now forgotten. Her books sold well and enabled her to live well and happily. Characteristic of her style is the following extract from her "Percy":

If there's a sin more deeply black than others,
Distinguished from the list of common crimes,
A legion in itself and doubly dear
To the dark Prince of Hell, it is—Hypocrisy.

Anna Letitia Barbauld (1743-1825), a native of Kilworth Harcourt, Leicestershire, was an essayist and poet. Wordsworth admired her poem entitled "Life" in which occur the lines:

Life! we have been long together,
Through pleasant and through cloudy weather;
'Tis hard to part when friends are dear;
Perhaps 'twill cost a sigh, a tear;—
Then steal away, give little warning,
Choose thine own time;
Say not Good-night, but in some brighter clime
Bid me Good morning!

Isobel Pagan (1740-1821), an eccentric Scottish spinster, wrote the song *Ca' the Yowes*, beginning:

Ca' the yowes to the knowes,
Ca' them where the heather growes,
Ca' them where the burnie rowes,
My bonnie dearie.

Burns used this refrain when he composed a new version of the lyric. "Ca' the yowes" means "Drive the ewes"; "knowes" are knolls, little hills, and "rowes" is "rolls".

Susanna Blamire (1747-94), a Cumberland woman, composed Scottish songs and also poems in the Cumbrian dialect, including one entitled "Auld Robin Forbes" of which the following is an extract:

I mind when I carried my wark to yon steyle,
Where Willy was deyken, the time to beguile,
He wad fling me a daisy to put i' my breast,
And I hammered my noddle to mek out a jest.

Another "Auld Robin" song is "Auld Robin Gray", which was written by Lady Anne Barnard (1750-1825), daughter of James Lindsay, fifth Earl of Balcarres (Fife). The secret of the authorship of this famous song was first revealed by Lady Anne in a letter to Sir Walter Scott, dated 8th July, 1823.

Mrs. Elizabeth Grant (1745-1814), a Banffshire lady who died at Bath, wrote the song "Roy's wife of Aldivalloch" which used to be very popular. She is often confused with Mrs. Anne Grant (1775-1838), the wife of a Highland clergyman who wrote verse, but is best known for her *Letters from the Mountains* (1806) and *Superstitions of the Highlanders* (1811).

Mrs. Amelia Opie (1769-1853), a native of Norwich, and wife of John Opie, R.A. (1761-1807) wrote pathetic stories

including *The Father and Daughter* (1801) which went through a number of editions. She was also a poet, her best-known poem being "The Orphan Boy's Tale":

Stay, lady, stay, for mercy's sake
And hear a helpless orphan's tale;
Ah! sure my looks must pity wake;
'Tis want that makes my cheek so pale.

The boy's father was killed in the battle of the Nile.

Mrs. Hunter (1772-1821), a surgeon's daughter who married Dr. John Hunter, the famous physician, wrote several poems, including "My mother bids me bind my hair" which was given a musical setting by Haydn.

Mrs. Tighe (1772-1810), the daughter of a Wicklow clergyman, composed distinguished verse, her highest achievement being "Psyche" which influenced Keats. It is in Spenserian stanzas and reveals a fine sense of colour and melody:

The amethyst was there of violet hue,
And there the topaz shed its golden ray,
The chrysoberyl, and the sapphire blue
As the clear azure of a sunny day,
Or the mild eyes where amorous glances play;
The snow-white jasper, and the opal's flame,
The blushing ruby, and the agate grey,
And there the gem which bears his luckless name
Whose death by Phoebus mourned, insured him deathless fame.

CHAPTER XLIV

Farm Boy who became an Explorer

Long before the time when education became compulsory a farm labourer's son, a most intelligent boy, attended the village school of Great Ayton in Yorkshire. He did not like farm work and studied book-keeping and arithmetic so that he might obtain a situation in a shop. He made rapid progress and was found to have a wonderful aptitude for figures. A situation as a shop-apprentice in Snaith, about ten miles from Whitby, was found for him, and in this little coastal town he became attracted by sea-life and wanted to become a sailor. His dream was realized in his eighteenth year when he was apprenticed by a Whitby shipowner and sailed on board the coal-boat *Freelove*, which traded between Newcastle and London. On the summer day in 1746 when he first went to sea he had dreams of wonderful experiences as a sailor, but who could have thought that this farm-labourer's son would become one of the most famous navigators in history—one who was to make wonderful discoveries, add Australia and groups of South Sea islands to the British Empire and be worshipped as a god by the Polynesians!

This Yorkshire boy was James Cook (1728–1779) who, after becoming a mate in the merchant service, joined the Royal Navy on the outbreak of the war with France in 1755. Four years later he was raised to the rank of master and sailed on the *Mercury* to Canada. At the siege of Quebec he piloted the boats which carried the soldiers to the attack on the Heights of Abraham and thus and in other ways played an important part in the conquest of Canada from

the French. In April, 1760, he was promoted to the rank of lieutenant and served in connexion with the recapture of Newfoundland. His leisure time was spent in improving his education by applying himself to the study of mathematics and astronomy. He displayed great ability in surveying the coasts and gulf of St. Lawrence and the heights and harbour of Placentia in Newfoundland, preparing most reliable charts.

After returning to England, Cook was selected to command an expedition to the Pacific Ocean, partly to observe the transit of Venus over the sun's disk at Tahiti and partly to conduct geographical exploration. This scheme originated with the Royal Society and was under the patronage of King George III and the Board of Admiralty. On 25th May, 1768, Cook was appointed to command the *Endeavour*, a barque of 366 tons, her greatest length being only 100 feet, but yet double that of Drake's *Golden Hind*. He sailed from Plymouth on 25th August, 1768, and with him went some scientists including Mr. (later Sir Joseph) Banks, the botanist, whose name clings to "Banksia", a genus of Australian shrubs and trees. The voyage was by way of Cape Horn, and Tahiti was reached in April, 1769. The transit of Venus was observed on 3rd June. Thereafter Cook surveyed the coast of New Zealand and also the whole eastern coast of Australia, taking possession of it in the name of King George by the name of New South Wales. Other names given by Cook at this time include "York Cape," "York Isles," "Newcastle Bay," "Possession Island" and "Endeavour Straits". When the ship *Endeavour* returned to England in June, 1771, after an absence of nearly three years, Cook was raised to the rank of Post-Captain in the Royal Navy.

Cook was sent on a second voyage of exploration with

two ships, the *Resolution* (460 tons), on which he himself sailed, and the *Adventure* (330 tons) commanded by Captain Furneaux. The object of the voyage was to find if a Continent really existed, as was supposed, to the south of Cape Horn and New Zealand. The ships left Plymouth in July, 1772, and sailed by way of Cape of Good Hope. In January, 1773 they passed the Antarctic Circle and became separated in foggy weather, not meeting again until the following May. Cook failed to find a Southern Continent and made for New Zealand. He was joined there by the *Adventure*, but some months later the ships got out of touch again and were not in contact for the rest of the voyage. Cook visited Easter Island and discovered other islands. Then he returned to New Zealand and went southward once more to confirm his view that the Southern Continent was a myth. His great cruise had extended from Australia to Tierra del Fuego and his discoveries included the islands of New Caledonia and Georgia. He arrived back in Plymouth in July, 1775.

In July, 1776, Cook set out on his third voyage, again in the *Resolution* and accompanied by the *Discovery* (300 tons) under the command of Captain Charles Clerke who had served under him as a lieutenant on the previous voyage. The plan was to solve the problem of the North-west Passage, supposed to exist between the northern Atlantic and northern Pacific. He revisited New Zealand and Tasmania and rediscovered the Hawaiian or Sandwich Islands which a Spanish navigator, named Gaetano, reached in 1555. Then he sailed for the American coast and cruised northward towards Alaska. At a point which Cook named "Cape North", in sight of the "main ice", he decided to turn back. There was much snow and a thick fog was coming on. "I did not," he wrote, "think it consistent

with prudence to make any farther attempts to find a passage into the Atlantic this year." He hoped, however, to make another search during the next summer.

Cook returned to Hawaii. There the natives believed he was a white god, named "Lono", who, they believed, had gone away and was some day to return. As we have seen, Cortez was similarly regarded as a god by the Aztecs of Mexico. When Cook went ashore a priest, named Koa, and Palea, a chief, led him to a sacred place called a "marae", and Cook was far from pleased when he found that he was being worshipped.

Trouble broke out later with the natives, who were great thieves. When Cook was interviewing the chief about a stolen boat, he was threatened by a native warrior whom he at once shot with his pistol. Another warrior, in the confusion that followed, gave Cook a fatal wound. Thus perished the great navigator in the fifty-first year of his age.

One of Cook's greatest achievements was in maintaining the health of those who served under him. Scurvy was the great pest in his time and Anson, as has been shown, lost a large proportion of his men who were attacked by this disease. Cook made a special study of preventive medicines and paid much attention to ventilation, fumigation and the supplies of clean water and fresh food. He insisted upon a rigid standard of cleanliness of person and of ship. A characteristic record tells that, on arriving at an anchorage in New Zealand, "the captain gave orders that vegetables should be boiled every morning, with oatmeal and potable broth, for breakfast, and with peas and broth every day for dinner, for the whole crew, over and above their usual allowance of salt meat." Fresh vegetables prevented scurvy. During a three year's voyage, Cook lost only one man out of 118 through disease.

Another interesting fact is that while earlier explorers were plunderers in search of loot, whether as fighting men or traders, Cook's aims were scientific; he was in quest of geographical and other knowledge for the benefit of mankind.

CHAPTER XLV

Explorer who was Ridiculed

A notable African explorer of the eighteenth century was James Bruce (1730-1794), landed proprietor at Kinnaird, Stirlingshire. He entered Abyssinia in the days when to travel in such a country was a perilous adventure and searched for and found the source of the Blue Nile, but when he published his book, giving an account of his experiences, it was received with ridicule. Some London critics went the length of asserting that he had never been in Abyssinia at all. Even some of his personal friends doubted the truth of his narrative. One day a gentleman, as it chanced, made fun of the statement that the natives of Abyssinia ate raw meat, declaring such a custom to be "impossible". He soon had reason to regret his criticism. Bruce heard him in silence and then rose and left the room. He soon returned from the kitchen with a piece of raw meat which he had salted and peppered in the Abyssinian fashion. "You will eat this, sir, or fight me," he announced politely but very firmly. The gentleman critic thought it best to comply with the request, knowing he was no match for the explorer. When the raw flesh had been eaten, Bruce remarked very calmly, "Now, sir, you will never again say

it is impossible." Bruce was an impressive man, six feet four inches in height and of good muscular development, and his travels in Africa had made him hard and active. He had proved himself a determined and fearless explorer, and one who was most tactful in his dealings with Africans of various tribes and classes. He was, withal, proud and sensitive. It pained him greatly to find himself accused of falsehood or exaggeration, but he disdained to reply to his mocking critics. When friends pleaded with him to do so, he would make answer, "What I have written, I have written." To his daughter he was wont to say, "I shall not live to see it, but you probably will: the truth of all I have written will be fully confirmed."

At Kinnaird mansion house he often dressed in Eastern costume with a turban on his head and told of his experiences when he was referred to as "*Yagoube*—the white man". He became very heavy with advancing years and one of his friends has told that "his carriage, when he entered it, bent sideways with his weight".

Bruce was educated at Harrow and the University of Edinburgh. He was British consul at Algiers from 1763 till 1765 and afterwards visited Tunis, Tripoli, Rhodes, Cyprus, Syria and Asia Minor. Interesting sketches were made by him of the ancient ruined cities of Palmyra and Baalbec, and he prepared good maps.

Bruce set out in 1768 on his journey to discover the source of the river Nile. From Cairo he sailed to Syene, the site of famous granite quarries, crossed the desert to the Red Sea and ultimately reached Gondar, the capital of Abyssinia. He was well received by the King, who gave him protection. Bruce had treated successfully, by means of baths and good ventilation, several native patients suffering from fever. Doors and windows being kept open; he ridiculed the

"suffocating system" of treatment that prevailed. After patients had recovered he had the rooms cleansed and fumigated. His successful treatment of a young lad, a near relative of the queen, brought him very special favour at the royal court.

At the end of October, 1770, Bruce left Gondar, the capital, to visit the source of the Nile, and he had interesting experiences on his way. In one place he found oats growing wild, with stalks about an inch thick and tall enough to hide a horse and rider. In his camp he had meal prepared and he then cooked oatcakes "after the fashion of Scotland", but his native companions said the cake "was bitter, that it burnt their stomachs and made them thirsty". Wild flowers of every colour were growing in abundance in this area and Bruce saw many beautiful birds, but they were "squalling and noisy". Thick groves lined the banks of the river as the party moved towards its source. Bruce found that, although the natives were nominally Christians, they worshipped the river and insisted that anyone crossing a ford should do so bare-footed. When, at length, he reached the source, he found there a sacred altar of green turf between two pools in a marshy place. The people in the neighbourhood prayed every day to the river "as if it were God". A "shum" (priest) was known as "servant of the river". The village in which he lived had been gifted by the king to the explorer, and Bruce was consequently greatly honoured during his stay, occupying the "shum's" house.

After his return to Gondar Bruce's health declined. He had an interview with the King, who being in more than ordinary good humour, declared that he would grant anything he asked. Bruce requested permission to make his departure and the king gave his consent, although it was an

ancient and general rule never to allow a stranger to quit Abyssinia. Bruce promised that he would return after recovering his health in Britain.

Lest the king should change his mind, Bruce set out for Nubia without delay. His journey of a month was pursued in great heat and when sand-storms were frequent. He lost all his attendants except one man. In time he reached Cairo and thence departed for Europe.

After spending some time in France and Italy Bruce returned to Scotland in 1774. His *Travels*, the book which aroused so much hostile criticism, did not appear until 1790. In it he recognized that the river source he had discovered was that of the Blue Nile and that the White Nile, fed by distant rains in the equatorial area, was the main artery of the river which fertilized Egypt. In contrast to the ridicule to which Bruce was subjected during his life-time, succeeding explorers have paid tributes to his writings, declaring them to be in considerable measure most accurate and reliable.

Although Bruce was not aware of the fact, the source of the Blue Nile was reached by Peter Paez, a Jesuit missionary, who went to Abyssinia in 1600. His description of the country was written in Portuguese and after his death published in Latin but became known to only a small circle.

CHAPTER XLVI

The First American President

When Cromwell and his party had set up a Republican form of government in Britain many English loyalists, who had supported the cause of King Charles I, emigrated to the American colony of Virginia which had been founded by Sir Walter Raleigh. Among others were John and Lawrence Irving, the great-grandfather and great-grand-uncle of George Washington, who was to become an American Cromwell and the first President of an independent Republic. The Washingtons took with them their old family coat of arms with its three stars and two stripes surmounted by an eagle, which was to be taken as a model for the United States national flag. The "American eagle", adopted as a national symbol, was thus imported from England.

The father of George Washington (1732-1799) possessed considerable property in Maryland and in his will divided it among his six sons, of whom George was the third. Lawrence, the eldest son, had been educated in England and enlisted in the British army; he served as a junior officer in a campaign against Spain in the West Indies. George dreamed of becoming an officer in the British navy. Arrangements were made for him to join a man-of-war as a midshipman, but at the last moment he was prevailed upon by his mother to change his mind. He applied himself instead to the study of mathematics, having shown much promise at school, and ultimately qualified himself to undertake land-surveying. When only sixteen he was employed by Lord Fairfax to survey extensive property on the Potomac. He performed this task with ability and was

afterwards appointed a public surveyor. In the wilds he lived the life of a "backwoodsman", camping by night and procuring food by hunting and fishing. He was brought into contact with Red Indians, but found them inclined to be friendly. At nineteen he was appointed adjutant-general of the Virginian militia and proved that he had soldierly qualities. He served in the war against France during the struggle between that country and Britain for possession of considerable territory in North America. In 1758 he took part in the capture of the French fort of Duquesne, the site of which is in the modern city of Pittsburg.

When Lawrence Washington died, George inherited his estate, and in 1759 he married Mrs. Martha Custis, a wealthy young widow with two children, who owned a large estate. Washington settled down for a time to the life of a country gentleman and became a member of the Assembly of Virginia, the governing body of that state.

After the capture of Quebec, the American colonies, which had lost about 30,000 men, were burdened by a war debt of four millions sterling. Great Britain's debt amounted to a hundred and forty millions. It was decided by the British parliament to impose duties on the American colonies to increase revenue, but so strong was the colonial opposition that all duties were repealed except that on tea. In 1773 there occurred at Boston an incident which led to war. A party of seventeen colonists raided a ship lying in the harbour and threw its cargo of tea into the sea. The British Government retaliated by ordering the port of Boston to be closed to commerce and it was blockaded by British ships of war. The seat of colonial government was meantime transferred to Salem. Hostilities broke out in the spring of 1775 when a small British force which had been dispatched

to destroy military stores at Concord was intercepted and defeated by colonists at Lexington.

George Washington was selected as commander-in-chief of the colonial army. Boston was besieged and on 17th June the first important battle was fought. A strong American force had been sent to occupy the peninsula on which Charlestown is now situated, and it was not until after three assaults that they were dislodged. The British casualties were about 1000, but the colonists lost less than half that number. From the outset the Americans proved themselves more accurate "shots" than the regular soldiers.

In the following year (March 17th, 1776), the British had to evacuate Boston, retreating to Halifax.

Thirteen states assembled in Congress and appealed to King George III against the system of taxation without representation. When they found they did so in vain, a resolution, embodied in a Declaration of Independence prepared by Thomas Jefferson, was adopted in slightly modified form on 4th July, 1776. Jefferson (1743-1826) became the third president of the Republic (1800-1809). George Washington was the first president.

A British army under the command of Sir William Howe, was sent against the rebellious colonists. In the battle of Long Island, Washington was defeated with heavy loss in August, 1776. The colonists retreated beyond the Delaware to defend Philadelphia, then the capital, and Washington was again defeated in the battle of Brandywine, near a small river of that name in the state of Pennsylvania (11th September, 1777). In the north, however, the Americans were successful, General Burgoyne surrendering to General Gates at Saratoga, New York State, in October, 1777. The French entered the struggle to help the Americans in the spring of 1778 and were followed later by Spain and Holland.

The war dragged on and turned definitely in favour of the Americans when Lord Cornwallis and his British force surrendered at Yorktown in 1781 to a combined American and French army under the command of Washington and Rochambeau. The independence of the United States of America was recognized by Great Britain on 3rd September, 1783.

Four years later the constitution of the United States was adopted by the representatives of thirteen states which met at Philadelphia. It came into operation in March, 1789, and George Washington was elected first President. He was re-elected in 1793, but in 1797 refused to become candidate for a third term. His successor was John Adams (1735-1826), whose son, John Quincy Adams (1767-1848), became sixth president.

Washington proved himself a sagacious and far-seeing statesman. "After," wrote Alison the historian, "having signalized his life by a successful resistance to English oppression, he closed it by the warmest advice to cultivate the friendship of Great Britain, and exerted his whole influence, shortly before his resignation, to effect the conclusion of a treaty of friendly and commercial intercourse between the Mother Country and its emancipated offspring."

Washington left no family. His Mount Vernon home, about fifteen miles from the city of Washington, became national property in 1858. In the grounds is his tomb.

CHAPTER XLVII

A Builder of Empire

A great area of north-west Canada, embracing some 564,000 square miles, known as "Mackenzie", and the "Mackenzie river" which flows from the Rocky Mountains to the Arctic Ocean and is navigable for 1000 miles, bear the surname of the great explorer Alexander Mackenzie (1755-1820). He was the first white man to reach the Pacific Ocean by an overland route north of Mexico, the first to sail down Mackenzie river to its delta, the first to tell of the existence of the Yukon river, and the first to discover and navigate part of the Fraser river. He was not an aimless wanderer or a lover of "the wild". "It is the height of folly," he once wrote to a relative from western Canada, then a very thinly peopled area, "to reside in a country of this kind, deprived of every comfort that can render life agreeable, especially when he has a competency to enjoy life in a civilized country." His explorations were conducted for the purpose of extending trade and maintaining it in the future, and he suffered hardships and faced perils with a high sense of duty. He was one of those resolute and resourceful men, like Captain Cook and Mungo Park, who have proved themselves great pioneers of Empire and left a memory of inspiring example.

Mackenzie was the son of a farmer and was born in Luskentyre House, Kenneth Street, Stornoway, in Lewis, Ross and Cromarty. When ten years of age, his mother having died, he accompanied his father and two aunts who emigrated to New York where his maternal uncle John MacIver was a prosperous merchant, known to many as

"Ready Money John", because all his dealings were on a ready-cash basis. Mackenzie's father and uncle joined the Royalist forces on the outbreak of the war of independence in 1775. Three years later he was himself sent to Montreal for safety and there he went to school. His father died in 1780. At fifteen he entered the counting-house of the Montreal fur-trading firm of Gregory, MacLeod and Company, and he proved himself industrious and competent. Before he had reached thirty he became a partner in the branch of the firm engaged in making visits to the then wild interior of Canada. Keen opposition to his firm was maintained by Frobisher and MacTavish. This MacTavish as it chanced, was as irascible as he was determined and enterprising.

When exploring and trading in the West, Mackenzie and his friends heard from Red Indians of the rich country beyond the Rocky Mountains, while from Britain came reports of the discoveries of Captain Cook. Alexander Mackenzie was moved to explore hitherto unvisited territory and especially to follow the course of the great river which now bears his name. In June, 1789, he embarked at Fort Chipewyan on Lake Athabasca, in a birch-bark canoe with five others, another canoe carried supplies, while in a third was a Red Indian and his two wives. About thirty miles farther on they entered the Rocher river and then the Slave river, which is so named after joining the Peace river. Rapids were avoided by making land journeys. Cold, rain and thunder-storms were experienced and often when the camp was pitched, clouds of fierce mosquitoes attacked the party. The food supply was supplemented by hunting. After reaching and crossing Great Slave Lake, Mackenzie parted with several of his associates, who were to establish trading posts, and set out to explore Mackenzie river. On

his voyage he camped each night and often came into touch with communities of Red Indians; he always exercised great tact in his dealings with these natives. From some he heard wild stories of sea-monsters and of huge vessels with sails that had been seen on the Pacific coast and were referred to as "demons with wings". He reached the mouth of Great Bear river, which flows from Great Bear Lake, early in July. When within the Arctic circle he was warned by Red Indians of perils ahead, and he began to hear of the Eskimos, who were greatly dreaded. On 12th July Mackenzie and an Indian ascended an eminence on an island and saw frozen water and mountains. His followers became greatly afraid and wished to turn back, but Mackenzie managed to reassure them and regain their confidence. On 14th July whales were seen and on the following day Mackenzie made observations of the rise and fall of the tide. He had reached the extremity of Whale Island in the open sea, and if the ice had broken and shifted he might have continued his exploration to Behring Strait and the Pacific Ocean,

On 16th July Mackenzie set out on his return voyage and he arrived back at Fort Chipewyan on 12th September, his exploration having occupied 102 days. The distance to and from Whale Island is 2990 miles.

Mackenzie during his exploration realized that he ought to have had a knowledge of astronomy and of how to take observations with instruments. He accordingly thought it best to return to Britain and engage in study. He spent the winter of 1791-1792 in this country, where he purchased instruments and learned how to use them. In the summer of 1792 he was back at Fort Chipewyan, and by October he had made arrangements for another expedition. He had heard of another large river. It flowed in the unknown West, and he resolved to follow it to the Pacific. As it

proved, he was successful. He reached the coast at Dean Channel in British Columbia with nine companions on 21st July, 1793, and on a rock there next day painted his name and the date. The inscription has since been cut out and there is a bronze tablet on the monument erected to his memory, which records his great achievement.

Mackenzie had discovered the upper reaches of the Fraser river which bears the name of Simon Fraser, his friend and fellow-trader who explored it more thoroughly at a later date. After navigating the river for a considerable distance, he left it and, guided by Indians, took an overland route towards the sea. About a month earlier George Vancouver (1758-1798), the English navigator, who had accompanied Captain Cook on his second and third voyages, reached the Vancouver area and surveyed the very coast reached by Mackenzie. Had the two explorers met, they would have been mutually well pleased indeed.

Mackenzie overcame great difficulties and perils on this westward journey. As in his northern exploration, he exercised much tact in his dealings with the Red Indians and collected valuable information for the future development of trade. His explorations, and those of Simon Fraser and David Thompson, secured British Columbia for the British Empire. Had the British statesmen of the time paid heed to Mackenzie after his return to this country, the states now known as Oregon and Washington would likewise have been included in our Empire. His great friend and supporter was Edward Duke of Kent, father of the princess who became Queen Victoria. It was owing to his influence that Mackenzie was knighted by King George III after the publication of his book, *Voyages from Montreal on the River St. Laurence, through the continent of North America to the frozen and Pacific Oceans in the years 1789 and 1793.*

Mackenzie in 1812 purchased the estate of Rosehaugh near Fortrose, Black Isle, Ross and Cromarty, and there he spent the remaining years of his life. He married Geddes Margaret Mackenzie, a beautiful woman descended from the second Earl of Seaforth, who survived till 1860, and their burial-place is the churchyard of Avoch, near the house which they had occupied.

CHAPTER XLVIII

A Group of Painter Geniuses

“The more extensive your acquaintance is with the works of those who have excelled, the more extensive will be your powers of invention. . . . Those great masters who have travelled the same road with success are the most likely to conduct others. . . . If you have great talents, industry will improve them: if you have but moderate abilities, industry will supply their deficiency. Nothing is denied to well-directed labour: nothing is to be obtained without it”

These are extracts from *Discourses on Painting* by Sir Joshua Reynolds (1723-92) and they apply to youth in any sphere of activity. The discourses in question were first addressed to art students and are of special interest because they inaugurated a new era in the history of painting in this country.

Before Reynolds' time students were apprenticed to individual artists. This custom was changed when Reynolds had accomplished in 1768 the foundation of the

Royal Academy schools and the body of Royal Academicians whose duty it was to instruct students. Reynolds was the first president of the Royal Academy and in his discourses to the art students he emphasized the importance of industry and serious study.

Reynolds represented, as a painter, the English "school" of which the pioneer was William Hogarth (1698-1764), an accomplished draughtsman and colourist who was not greatly appreciated in his day. Hogarth's "School of Art" in St. Martin's Lane, London, really led to the foundation of the Royal Academy.

The year of Reynolds' birth was that of the death of Sir Godfrey Kneller (1646-1723), a brilliant and somewhat flashy portrait painter who had mastered his craft by studying the Renaissance painters of Italy. His cleverness did not, however, amount to genius. Reynolds' father was an Oxford scholar who became headmaster of a grammar school near Plymouth. Joshua began to make sketches when about twelve years old, "out of pure idleness", as his father put it, but he subsequently displayed so much talent that he was apprenticed to the portrait painter Thomas Hudson (1698-1764) who caught likenesses, but was not a great artist. Admiral Keppel took Joshua to Italy two years after he had begun to study art seriously, and there the young painter saw revealed the wonderful art of Michelangelo and other masters of the Renaissance. His first distinctive work was his portrait "Admiral Keppel". He subsequently became a great portrait painter with an exquisite colour sense, but unfortunately used pigments which have deteriorated greatly. His range of colours was wider than any predecessor. Withal, he was a fine draughtsman and a stylist who interpreted his subjects and made them live.

Thomas Gainsborough (1727-1788) could never draw like Reynolds nor did he, like him, study character. His portraits often reflected his own mood, and when he was inspired he was brilliant. He was an erratic genius who preferred landscape painting to portrait work, and he was a pioneer in what is known as "transparent painting". His famous portraits include "Mrs. Graham", a lady he greatly admired, and "Mrs. Siddons", the actress who struck him as an aloof, hard and yet brilliant genius.

George Romney (1734-1802) was a rich fresh colourist, but not a great draughtsman. He had a wonderful sense of design and was interested in the decorative possibilities of a sitter. When not interested in a subject, he could be very dull, but one who inspired sympathy and admiration moved him deeply and stimulated his art. He painted about a hundred portraits of Lady Hamilton.

Sir Thomas Lawrence (1769-1830) was an assured, self-confident painter with an original technique. His colours were boldly used and he inclined to be "showy". Although often lacking in depth, there can be no question of the sheer brilliance of his work. His portraits are full of vitality, and his groupings pleasing and graceful. He never struck the dignified note of Reynolds, nor was he decorative like Romney. It is often said of Lawrence that there is something of his own strong individuality in all his wonderful portraits.

Sir Henry Raeburn (1756-1823), the Edinburgh painter, had at twenty-one years of age developed a style of his own. It was Reynolds who advised him, when he was passing through London on his way to Italy, to study the works of Michelangelo. His experience was, no doubt, of great benefit, but he could never be an imitator. Raeburn had the faculty of making his subjects live. Each is faithfully

characterized and in each much is revealed by the eyes. There is in his work a wealth and warmth of colour and sureness of treatment that place him high among, not only British, but European portrait-painters.

Landscape painting, during the latter part of the eighteenth and early part of the nineteenth century, was not in nearly as great demand as portraits. John Crome (1768-1821), a native of Norwich, was in his younger days a tradesman who painted coaches and signs. He never received an art education, except as a copier of the work of others. In time he became a drawing master who taught young ladies, chiefly. He never painted for a living. His subjects were trees and fields and woodlands, which he rendered as he saw them in light and shadow and in exquisite colours.

John Constable (1776-1837) was a landscape painter in his native county of Suffolk from his boyhood, but it was not until he was twenty-three that he went to London to study in the Royal Academy classes. He exhibited at the Royal Academy but he had reached his forty-third year before he was elected an Associate. In 1824 his picture "The Hay Wain" was exhibited in the Paris Salon and awarded a gold medal. The freshness and beauty of his landscapes made for a time wider appeal on the Continent than in England. He devoted much care to his work, but developed the art which conceals art.

Joseph Mallord William Turner (1775-1851) was to prove one of the very greatest of all the landscape painters—a Shakespeare in colour. He was a native of London and in his early years served as an apprentice to an architectural draughtsman. He was afterwards employed colouring engravings. From 1790 till 1793 he attended the Royal Academy schools. A fellow-artist, Thomas Girtin (1775-

1802), influenced him greatly by leading him to paint a landscape not so much as he saw it as how it inspired him. Turner became a great imaginative painter, a colourist who depicted atmospheric effects in riots of glorious colour and in a manner quite different from any painter who had ever lived before him. He expressed himself in colour as a great poet expresses himself in language; he was intensely personal and original. When he visited Italy he was more influenced by its scenery, its atmosphere, its romance and its history than by its great painters. Among his famous pictures are "The fighting Téméraire", "Ulysses deriding Polyphemus" and "The Sun rising through Vapour". In his "Rain, Steam and Speed", he discovered exquisite charm, even in a railway engine crossing a bridge, giving it a marvellous atmospheric setting. Turner reveals to us visions of beauty in the everyday world and glimpses of his own vivid imagination.

William Blake (1757-1827), a poet and mystic, was a painter of ideas and a preacher in colour and line. At his best he reveals a note of greatness and a charm difficult to define. He had no forerunner and has had no successor.

The brilliant British painters born in the eighteenth century effected a wonderful change in the attitude of Continental artists towards this country. The foreigners no longer came to teach but to learn.

CHAPTER XLIX

Scotland's National Bard

A song of good friendship and patriotic memory, which is sung in every part of the English-speaking world, is "Auld Lang Syne", that is, "the times of old". It is sung at parting:

Should auld acquaintance be forgot
And never brought to min' (mind)?

It was composed from an old fragment of folk-song by Robert Burns (1759-1796), the Scottish poet, who had dreams of the time when

Man to man the world o'er
Shall brithers be.

He wrote chiefly in the old Scottish dialect and among his famous songs are "The Banks o' Doon":

Ye banks and braes o' bonnie Doon,
How can ye bloom so fresh and fair?—

"Jean", "Mary Morison", "John Anderson, my Jo", "My Bonnie Mary", "My Luve is like a red red rose", "Ae fond Kiss", "Highland Mary", and "Hark! the Mavis". He is one of the great lyric poets who have enriched the world with song. His verse tale "Tam o' Shanter" is a vivid and spirited composition, infused with humour and a spirit of heartiness which make a permanent appeal. There is, withal, a tender pathos and genuine poetic feeling in his poems entitled "To a Mouse, on turning her up in her nest with the plough, November, 1785" and "To a Mountain Daisy, on turning one down

with the plough in April, 1786". A man who could produce great literature on such unpromising themes was surely an inspired poet. Burns was also a satirist. He censured and ridiculed the narrow theology of his fellow countrymen of his age, but in a spirit which revealed that he was a broad-minded and charitable man:

Then gently scan your brother Man,
Still gentler sister Woman;
Tho' they may gang a kennin wrang
To step aside is human.

In his "A Bard's Epitaph" he wrote frankly of himself:

Is there a man, whose judgment, clear,
Can others teach the course to steer,
Yet runs, himself, life's mad career
 Wild as the wave?—
Here pause—and through the starting tear,
 Survey this grave.
The poor inhabitant below
Was quick to learn, and wise to know,
And keenly felt the friendly glow
 And softer flame;
But thoughtless follies laid him low,
 And stain'd his name!

Burns was born in the little village of Alloway near Ayr. His father, a gardener and nurseryman, became a farmer, but did not prosper. At fifteen the poet worked as the chief labourer on the farm of Mount Oliphant, and in his spare time he was a great reader. He had attended a school intermittently and his father afterwards employed a teacher to instruct Robert and his brother Gilbert in their home. In 1784 the father, who had taken a larger farm, died of consumption. Robert and his brother afterwards rented the farm of Mossiel in the parish of Mauchline, Ayrshire. They had a hard struggle, for the land was heavy and

damp. Burns had been composing verses for several years and in 1786, when in his twenty-seventh year, he was contemplating leaving his native land for Jamaica, and had issued at Kilmarnock his first book, "Poems chiefly in the Scottish Dialect". It met with immediate success and he was invited to Edinburgh, where he was greatly honoured. A new edition of his poems brought him sufficient money to enable him to rent the farm of Ellisland, near Dumfries. It proved to be a bad bargain and the poet subsequently became an exciseman. He died from the effects of rheumatism and heart trouble in the thirty-eighth year of his age.

Burns was a handsome man, about five feet ten inches in height, with a very large head, comely features, dark hair in natural ringlets and bright hazel eyes. He was proud and yet modest and a most fascinating personality. His society was as greatly sought by aristocrats as by those of his own rank in life. Everyone found him good company and an attractive conversationalist. His fame as a poet has become world-wide.

CHAPTER L

The Hero of Trafalgar

In his "Ode on the Death of the Duke of Wellington", Tennyson refers to Nelson in glowing terms:

Thine island loves thee well, thou famous man,
The greatest sailor since our world began . . .
O saviour of the silver-coasted isle,
O shaker of the Baltic and the Nile!

Horatio Nelson (1758-1805) was the sixth child of a clergyman in Burnham-Thorpe, Norfolk. In his thirteenth year he entered the navy, serving under his maternal uncle Captain Maurice Suckling in H.M.S. *Raisonné*. After seeing service on various vessels in the Arctic Ocean, the East Indies and the West Indies, he became, before his twenty-first year, a post-captain, commanding the brig H.M.S. *Badger*. When he was placed in command of the frigate H.M.S. *Albemarle* he was only in his twenty-third year. He looked younger than his years. The Duke of Clarence (afterwards King William IV) referred to him as "the merest boy of a captain" and thought him eccentric, but found his conversation "irresistibly pleasing". Young Nelson spoke of naval matters "with an enthusiasm that showed he was no common being". He loved his profession, he loved his ship, and he loved his officers and men. He was in turn adored by those who served under him, inspiring them with his own courage and devotion to duty. The Duke of Wellington met him on one occasion and found that the sailor's talk was chiefly about himself. Nelson was certainly a very different type of man from Wellington, being impulsive, frank and fond of praise. There was a simplicity in his nature which made him susceptible to flattery, and he seemed to have no sense of humour. But he was a clear-sighted leader, with heroic qualities of the highest order, courageous to the point of recklessness and an original thinker who had the genius for "doing the unexpected" and doing it thoroughly. His knowledge of naval tactics was sure and complete; he laid his plans carefully and when convinced they were sound, carried them out with a fire and enthusiasm which infected others, combining the fierce joy of battle with the highest sense of duty. Henry

Newbolt, the poet, affords a vivid glimpse of him in action:

Splinters were flying above, below,
When Nelson sailed the Sound:
"Mark you, I wouldn't be elsewhere now,"
Said he, "for a thousand pound!"
The admiral's signal bade him fly
But he wickedly wagged his head:
He clapped his glass to his sightless eye:
And "I'm damned if I see it!" he said.

When war with France broke out, Nelson became famous for his activity and daring. He was wounded in an eye early in the war and lost the sight of it. When owing to jealousy in the high command, he was not mentioned in the *Gazette*, he declared, "I may have a whole *Gazette* to myself yet—and if the war lasts and glory is to be won, they cannot keep me from promotion."

Nelson distinguished himself in battle against the French fleet in March, 1795, and Admiral Jervis praised him for his distinguished services. In the following year his fame was increased by his behaviour in the action against the Spanish fleet when he captured three enemy vessels. For his gallant achievements he was knighted and given the freedom of London and Norwich.

As a rear-admiral Nelson subsequently commanded the inner squadron at the blockade of Cadiz. At Teneriffe his right arm was shattered and, although his plans failed on this occasion, his personal courage was never more conspicuous. With his right arm hanging loosely, he climbed up the side of H.M.S. *Theseus* by a rope and on reaching the deck called for a surgeon to amputate the useless limb. Great was the spirit of the frail, spare sailor!

In April, 1798, the one-armed admiral put to sea again with fresh enthusiasm, his flagship being H.M.S. *Vanguard*.

Napoleon was, at the time, fitting out an expedition at Toulon for an unknown destination and his fleet with transports had sailed before Nelson arrived. The Admiral concluded correctly that Napoleon had gone to Egypt, and gave chase. He reached Alexandria, but not finding the French there, thought he had been mistaken in his conjecture and sailed away. Napoleon arrived a few hours later. Nelson meanwhile searched for him along the Syrian coast, and it was not until he had arrived off the south coast of Greece that he learned the French fleet was in Aboukir Bay at the western mouth of the Nile delta. Bureys, the French admiral, thought that when Nelson had left Alexandria he had fled hurriedly, fearing to come into conflict with the French fleet.

Nelson found the French ships at anchor between shoals and protected by shore batteries. The hour was late but Nelson did not hesitate to attack, after having ordered each of his vessels to hoist distinctive lights. He so manœuvred his fleet that the Frenchmen were caught between two fires and only two enemy ships escaped destruction. The victory was complete and gave Britain the command of the Mediterranean.

The Admiral was then raised to the peerage as Baron Nelson of the Nile and Burnham-Thorpe and honoured by all the allies of Britain.

In February, 1801, Russia, Sweden and Denmark having formed a coalition, Nelson sailed for the Baltic, his flag-ship being the *St. George*. Sir Hyde Parker was in command of the fleet, but he accepted Nelson's plan of attack at Copenhagen on 1st April. It was on this occasion that Parker signalled to Nelson to discontinue the attack and Nelson placed the telescope on his blind eye, declaring he could not see aught!

Nelson succeeded Parker as commander-in-chief. When war again broke out in 1803 he set out for the Mediterranean, his flagship being the famous H.M.S. *Victory*. For the long period of fourteen months he blockaded Toulon, preventing the French fleet from putting to sea, thus showing that he was not merely an impulsive and dashing fighting-man, but one capable of those qualities of patience and perseverance that distinguish a strong and determined leader. Withal, he could not be tempted to act rashly. Although anxious to fight the French, he declined to run the risk of entering the harbour, which was strongly defended by shore batteries.

The French fleet put to sea in January, 1805, but soon sought refuge again in Toulon. In March the enemy ventured forth and, escaping the vigilance of the watchers, vanished completely. Nelson rightly concluded that it had gone to the West Indies, where over 200 British vessels were laden for home ports and the Colonies of Britain were liable to be captured and plundered. Nelson followed the Frenchmen in hot pursuit. The French admiral, Villeneuve, made haste to get out of his reach and Sir Robert Calder, thanks to information sent home by Nelson, fought with a squadron an indecisive action that caused Villeneuve to put in at Vigo.

Nelson was back at Spithead in August. In September Napoleon moved his army, intended for the invasion of England, out of Boulogne and proceeded to attack the Austrians. He had ordered Villeneuve, then at Cadiz, to return to Toulon. By 20th October Villeneuve put to sea, but Nelson was ready for him. His plan of battle was sent to Collingwood to whom he declared in a historic letter, "We have only one great object in view, that of annihilating our enemies and getting a glorious peace for our country."

On 21st October, having made the final preparations for the attack, he wrote the following prayer:

“ May the great God whom I worship grant to my country and for the benefit of Europe in general, a great and glorious victory; and may no misconduct in any one tarnish it; and may humanity after victory be the predominant feature in the British fleet. For myself, individually, I commit my life to Him that made me, and may His blessing alight on my endeavours for serving my country faithfully. To Him I resign myself, and the just cause which is intrusted to me to defend. Amen, Amen, Amen.”

Shortly before mid-day Nelson had hoisted on H.M.S. *Victory* the famous flag-signal,

“ England expects that every man will do his duty.”

Nelson's plan was that Collingwood's squadron should attack a dozen ships in the enemy's rear, while he himself attacked the van and centre of the French fleet, which consisted in all of thirty-three ships. Nelson thus abandoned the method of fighting in parallel formation, and divided his fleet into two independent squadrons. Collingwood was successful and Nelson broke the French line with H.M.S. *Victory*, and shattered the enemy vessels. A complete victory was achieved off Trafalgar, the French naval power being wiped out. Only eleven of the enemy vessels escaped and several of these were subsequently captured.

The great victory was dearly bought, for Nelson received his death wound. After H.M.S. *Victory* had, by overpowering fire, caused the French vessel *Redoubtable* to strike flag, Nelson ordered “ cease fire ”. High up in the rigging of the enemy vessel was a rifleman who saw the great one-armed admiral wearing his decorations. His aim was sure and a bullet entered Nelson's left breast. Mortally wounded, the admiral was carried below and, realizing

that he must die, he said to a surgeon, "Go, doctor, to those your art can aid. It is all over with me."

As he lay dying, he sent messages to Captain Hardy and was kept informed as to how the battle was proceeding. When at length he was told that a great victory had been won, he said, "Thank God! I have done my duty."

Captain Hardy who had received Nelson's last orders kissed him on the forehead.

"Who is that?" asked the dying hero. He was told it was Hardy. "God bless you, Hardy," Nelson murmured.

Again and again he repeated, "Thank God! I have done my duty." These were, indeed, the last words he uttered. He died at half-past four, three hours and a quarter after receiving his wound.

Nelson's body was carried home and was interred with ceremony in St. Paul's Cathedral, London. Nelson who thwarted Napoleon in Egypt and forced him to abandon his scheme to invade England, has left a peerless name which will always be greatly honoured.

CHAPTER LI

The Man of Destiny

Napoleon Bonaparte (1769-1821), "the man of destiny", began his career as a second-lieutenant in a French artillery regiment and rose to be Emperor of the French and a European dictator who dethroned kings and set in their places his own relatives. In his twenty-seventh year he became a general and proved himself the greatest of his time; in his forty-sixth year his dazzling career came to a close,

for he suddenly lost his throne, became an exile and a prisoner, and died on the lonely island of St. Helena. He was an islander by birth, being a native of Corsica, and his fall was directly due to the island Kingdom of Great Britain. Although French by nationality, he was of Italian descent. Corsica was finally conquered by France in the year of his birth.

No one could have imagined when Napoleon was a youth that he was destined to become such a prominent figure in the history of Europe. He was short of stature, his face, which was refined and thoughtful, was more like that of a poet than a soldier and his apparent inclinations were those of a student. He was an industrious reader, but his heroes of history were men like Alexander the Great, Hannibal and Julius Cæsar, great soldiers and conquerors, and he was deeply interested likewise in the careers and achievements of Gustavus Adolphus, Frederick the Great and Cromwell. In the English Cromwell he is said, indeed, to have taken a very special interest. As it turned out, his own career resembled somewhat that of Cromwell's, but he was a man of greater ambition. Both were brought to the front by Revolutions and the overthrow of kings. But Cromwell was a man of high principle who fought for a cause. Napoleon was more ambitious and fought chiefly for his own glory. There was something of the gambler and the actor in him. His greatness lay in his military genius. He was a man of imagination, a man of ideas and a man of tireless energy. He simplified and perfected the science of war after having profited by what the world's few great leaders had done before him; and his system was a simple and understandable one, for it was to concentrate against an enemy at a given point an overwhelming force and destroy all opposition. This involved a mastery of strategy—the art

of moving troops through a country, and the exercise of good tactics, the art of moving troops in battle. Withal, it necessitated a knowledge of a country. Napoleon's geographical knowledge was profound, and he had a marvellous geographical memory. He seemed to carry the map of Europe in his brain. Then he had a wonderful aptitude for realizing the intention of an opponent and the ability to make a quick decision to thwart that intention. His mental accomplishments were combined with an iron will and great courage and determination.

When the French Revolution broke out, his first ambition was to achieve the independence of Corsica, but the Corsicans failed him and he had to flee from his native island. In the French revolutionary army he distinguished himself by his able management of artillery attacks in driving the British out of Toulon, and he was promoted to the rank of a General of Brigade. In 1795 he suppressed a Royalist rising in Paris and received promotion to the rank of a General of Division.

Napoleon's opportunity to prove himself a great general came in the following year when he was appointed to command the French army in Italy. At the time the northern part of that country was ruled by Austria, with Milan as the centre of administration, while the King of Sardinia possessed Piedmont, with Turin as its capital. The papal possessions were in the centre of Italy and there were independent city states, like those of Venice and Genoa. Sardinia was in alliance with Austria.

Napoleon's Italian campaign lasted from April, 1796, till April, 1797, and was distinguished by rapid movements, and his characteristic rule of striking at a given point with overwhelming numbers. His army consisted of 37,000 men and was opposed to the allied forces 60,000 strong, 35,000

being Austrians and 25,000 Piedmontese and Sardinians. When he arrived at the front, the French seemed to be in a hopeless state, for they occupied a bad position on the coast between Loano and Savona and the British held command of the sea. The Austrians extended from Mont Blanc to Genoa and the Piedmontese had Ceva as their centre. It looked as if the enemy would push forward their right wing towards the coast and cut off the French from France. Napoleon "did the unexpected". He struck at the enemy centre, broke through and in a series of actions drove the Piedmontese in one direction and the Austrians in another. In the course of a fortnight he had cut the allied forces in two, capturing 15,000 prisoners and fifty guns. Then he advanced towards Turin. The King of Sardinia was so alarmed that he sued for peace, and Napoleon granted an armistice. Then the French army had only the Austrians to deal with and drove them out of Italy. Napoleon not only outfought them, but by rapid marches prevented them concentrating after a defeat. He forced the Austrians to sue for peace when within about eighty miles from Vienna.

Great Britain was the chief remaining enemy and, as stated, was powerful at sea. It was with purpose to weaken British influence in the East that Napoleon invaded and occupied Egypt in July, 1798. On 1st August, however, Nelson won the battle of the Nile, crippling and isolating the French. In the following year Napoleon besieged Acre, the Syrian seaport, but Sir Sidney Smith helped the Turks to defend it and Napoleon was baffled in his attempt to win the coast of Syria for France. His dream of conquering Turkey, Mesopotamia and Persia and invading India had then to be abandoned. He would fain have proved himself another Alexander the Great.

With some difficulty, Napoleon made his escape from

Egypt and returned to France. There he re-organized the government on an autocratic basis and reformed the French legal system in the *Code Napoléon* which secured the equality of all citizens before the law. He also re-established the Roman Catholic religion.

In 1800, Austria and Russia having formed a coalition against France, Napoleon took the field again. The Austrians were in force in northern Italy and expected a French advance along the Riviera. Napoleon "did the unexpected" by crossing the Alps from Switzerland and winning the shattering victory of Marengo. The Austrians sued for peace after a campaign which lasted for only a month.

Five years of peace followed. In 1804 Napoleon made himself Emperor of the French. War was renewed in the following year when Russia and Austria became the allies of Great Britain. Napoleon planned to invade Britain, concentrating an army at Boulogne, but the British navy thwarted his design. Meantime the Austrians overran Bavaria and moved up the Danube to the Iller. Napoleon, slipping away from Boulogne, surrounded and captured an Austrian army of 25,000 at Ulm and then headed for Vienna, which he occupied. In December, 1805, he defeated the Austrians and Russians in the battle of Austerlitz, bringing Austria to her knees. It was in October of the same year, however, that Nelson won the battle of Trafalgar which left Britain secure from the threat of invasion.

Napoleon, in the following year, overran Prussia, and in 1807 arranged a peace with Russia. Thereafter he proclaimed a trade blockade against Great Britain. In the following year his invasion of Spain led to the Peninsular war which dragged on till 1813 when the French power in that country was finally destroyed in the battle of Vitoria.

Napoleon was at the height of his power in 1810-11.

Then came the invasion of Russia in 1812 which led to the disastrous winter retreat from Moscow. In October, 1813, an army of Russians, Prussians and Austrians defeated Napoleon at Leipzig, and in March, 1814, the allies entered Paris. Napoleon abdicated and fled to Elba. He escaped from that island in March, 1815, and raised a French army. Then followed the Waterloo campaign which resembled his first campaign in Italy in 1796. He moved into Belgium with an army of 123,500 men against an allied army of 219,000, Wellington commanding 95,000 (of which 33,000 were British) and Blücher, the Prussian general, 124,000. Napoleon planned to effect a strategic breaking of the centre and, having separated the allies, to attack and crush each in turn. He succeeded in temporarily separating the allies, but although Blücher was defeated and thrown back, Wellington gave battle at Waterloo. Grouchy, who was sent in pursuit of the Prussians, failed to find them and Blücher rejoined Wellington during the latter part of the battle of Waterloo and, pursuing the French, turned defeat into disaster. At Waterloo Napoleon met in Wellington his equal as a tactician, as well as a courageous and stubborn army which the French could not outfight. In the end Napoleon "was", as a German military critic puts it, with regard to Waterloo, "no longer a general but a mere gambler, rattling the dice-box for the last time and staking his last 5000 men."

When Napoleon reached Paris he was forced to abdicate. His first thought was to escape to America, but "Britannia ruled the waves". He yielded on 14th July to the commander of H.M.S. *Bellerophon* and wished to reside on an English estate as "Colonel Muiron", but he was sent instead to the island of St. Helena. There he arrived on 17th October, 1815, and there he died on 5th May, 1821.

CHAPTER LII

The Iron Duke

Arthur Wellesley, Duke of Wellington (1769-1852), the great soldier, statesman and patriot, was, when he died, praised by Tennyson as "England's greatest son":

He that gained a hundred fights
And never lost an English gun . . .
Whose life was work, whose language rife
With rugged maxims hewn from life,"

and who, as the poet reminds us, showed that

Not once or twice in our fair island story
The path of duty was the way to glory.

Although the "Iron Duke" achieved fame by overthrowing Napoleon, whom he defeated at Waterloo, he was neither a lover of war nor of military pageantry. He disliked brilliant uniforms and in his campaigns wore a frock coat of grey or blue, or even civilian attire. In the Peninsular war he was often seen cantering about in plain clothes, and it was in plain clothes that he left Brussels after Waterloo to rejoin his army. Medals and Orders were to him almost trifles. It is known that he had a diamond star of an Order presented to him by a Continental king, broken up to be set in a jewel which he gave to his daughter-in-law. Nor did he worry regarding the appearance of his soldiers during war so long as their arms were clean. What he did insist upon and expect were duty, discipline, obedience to orders, patriotism and efficiency.

He was the fourth son of the first Earl of Mornington, the representative of the Gloucestershire branch of an old

Devon family, which had settled in Ireland in the sixteenth century; his mother, Anne Hill, was a daughter of the first Viscount Dungannon, a beautiful woman of resolute character. Arthur had in his boyhood a weakly constitution, and he was very shy and thought to be dull. At Eton he proved an idler who took little interest in games. Like his father he was musical and played the violin rather well. After his father's death, his mother and elder brother regarded him as a difficult problem, and it was a relief to them to secure for him a commission as an ensign when he was in his eighteenth year. At the time the army was regarded as a refuge for a younger son of little promise.

Released from the repressions of home life, Arthur became studious as a young officer and greatly interested in his profession. He never learned to ride a horse well, but he realized the importance of discipline and the need for temperate living and he was a thinker. After serving in Flanders for a brief period, he was drafted to India. It was his elder brother, who became Governor-general in India, to whom he owed his first opportunity to prove his worth. In 1803 he became known to the British Government as the victor of the Battle of Assaye in the second Mahratta war. As a military leader he had proved himself to be sagacious and far-seeing, one who left nothing to chance. An untiring worker and organizer, he paid great attention to detail; his system of transport and supply was as perfect as he could make it. Withal, he was a man quick to apprehend a situation and to reach a decision. There are military critics who regard him as Napoleon's equal as a strategist and he was certainly as able a tactician.

His health improved greatly during his seven years in India and his soldierly qualities were certainly developed there.

On his return to this country in 1805 he was promoted and he ultimately became commander of the army in the Peninsular war which lasted from 1809 till 1814. His task was to drive the French out of Portugal and co-operate with the Spaniards whose country was occupied by the enemy. Napoleon's brother Joseph, who had been King of Naples, had been transferred to Madrid to subdue Spain, and the French marshals Massena, Ney and Soult were the chief leaders opposed to Wellington.

In this campaign Wellington had his infantry so well drilled and disciplined and so well trained as marksmen, that they were the best in Europe. His artillery was good and, although he had field pieces which were inferior to the French twelve pounders, he used the new bursting projectiles invented by Major Henry Shrapnel and known as "shrapnel". His transport was as good as he could make it and herein he had a great advantage over the French. The British command of the sea made Wellington's communications safe. On the other hand, the French had to carry their stores from France across the Pyrenees by long and bad roads, and their communications were constantly harassed by armed Spanish bands.

Wellington, with an army of about 40,000 in the field, thwarted and ultimately drove 300,000 Frenchmen from the Peninsula. Part of his force was Portuguese and he made excellent soldiers of them. In the long war of attrition, he kept his army in a wonderful state of efficiency and, in addition, he took his share in the government of Portugal.

Among his famous victories were Talavera (1809) Salamanca (1812) and Vitoria (1813). His defence of the lines of Torres Vedras in the winter of 1810-11 was a notable feature of the war. After driving the French across the Pyrenees he invaded France and he had occupied Toulouse

when peace came with Napoleon's abdication and retreat to Elba.

When Napoleon returned to France in 1815, Wellington, who had been made a Duke in 1814, was placed in command of the British army and the allied forces of Dutch, Belgians and Hanoverians, co-operating with Blücher and his Prussian army in the Netherlands. Wellington had only six battalions of infantry which served under him in the Peninsula and of the remaining nineteen, fifteen were untrained and far from efficient. Yet at the battle of Waterloo the French were defeated. "The victory," as Dr. John Fortesque has written, "was all Wellington's own. He showed extraordinary nerve in accepting battle at all with so infamous an army, and it was only the inspiration of his presence and personality which kept his troops to their work Wherever danger was greatest he was on the spot, serene and confident He said later that he personally had saved the battle four times, but in truth he saved it from the first shot to the last. The real miracle which he wrought was in making raw levies stand under the terrible fire of Napoleon's artillery. They would gladly have advanced; but he prevailed with them to emulate his own patience until the supreme moment should come." Napoleon was not Wellington's superior on the battlefield.

At Waterloo Wellington was, indeed, a symbol of British steadfastness and genius. He was a spare muscular man five feet nine inches in height, with a prominent aquiline nose, deeply-sunk blue eyes, a firm mouth, strong pointed jaw and wavy black hair. His voice was deep and his manner aloof. Quick as his decisions were his rapped-out orders; his movements were those of a clear-seeing and resolute man. The small hands with tapering fingers were those of the artist and the man who combined subtlety of thought

with strength of will. He was one who, as a foreign critic has put it, could "outwit the most cunning and deceive the cleverest". He saw clearly and he acted with promptness and decision, doing the right thing in the right way and at the right moment.

In politics Wellington was a Tory of the old school. He became Prime Minister in January, 1828, and his government was defeated in connexion with the movements for Parliamentary Reform in November, 1830. In 1832 he arranged that the opposition peers should absent themselves from the House of Lords and allow the Reform Bill to pass. He was very unpopular at the time and twice mobs smashed the windows of his London house. When he died at Walmer Castle on 14th September, 1852, the whole nation mourned him and he was buried near Nelson in St. Paul's Cathedral, London. His reputation as a soldier and administrator has grown with the passing of time.

CHAPTER LIII

Men and Women Astronomers

There was once an orchestral conductor who at the intervals of concerts used to steal out of a hall to gaze at the stars, making use of a small telescope lent him by a friend. His curious habit caused some amusement among his acquaintances, and there were those who thought him rather eccentric. But, although he was a fine musician and an excellent teacher, of growing popularity, it was as a scientist he was ultimately to win fame. This was William Herschel (1738-1822). He was a native of Hanover, where

his father earned his living as a teacher of music. At nineteen he emigrated to England and for a few years had a very hard struggle indeed. In the course of his musical studies he began to study mathematics and then astronomy, and for some years he spent every spare moment acquiring knowledge regarding the heavenly bodies and making careful observations. Then he undertook to construct a telescope at home and produced so excellent a one that he began to get orders for similar instruments. He found this new industry a very profitable one.

Herschel was an organist at Bath when his sister Caroline (1750-1848) came from Hanover to live with him. She became keenly interested in astronomy and acted as his assistant. In time she made observations of her own which were regarded of great value and interest.

In the winter of 1779 Herschel began a systematic survey of the heavens and on 13th March, 1781, when using his seven-foot reflector, he detected in the constellation of Gemini a shining disc which he knew could not be a star. It was, in fact, a planet which had never before been identified as such.

From the time of the old astronomers of Mesopotamia only five planets were known. These were Mercury, Venus, Mars, Jupiter and Saturn. Here was a sixth planet which the discoverer named *Georgium Sidus*, in honour of King George III, but which has since become known as Uranus. Herschel's discovery made him famous and he was honoured as a second Galileo. The King invited him to the royal palace, instructing him to take his telescope, and His Majesty was so impressed by what he learned regarding the wonders of the heavens that he made Herschel "Private Astronomer to the King" and awarded him a pension of £400 a year. Herschel was then enabled to devote his entire time to his

favourite pursuit. He detected the moons of Uranus, of which there are four, and in his studies of the moon, he discovered that its mountains were of volcanic structure.

In 1787 Herschel had completed at Slough, near Windsor, a telescope forty feet in length, and with the aid of this instrument he added greatly to astronomical knowledge. By 1802 he had submitted to the Royal Society a catalogue of about 5000 nebulae and star clusters which he had discovered, and he was worthily recognized as one of the greatest of astronomers. He was knighted in 1816.

In conducting his observations, Herschel was greatly helped by his sister. Night after night she sat up with him, making records, and often the ink was frozen upon her pen. She helped him, too, in manufacturing his great telescope and she copied the many papers which he submitted to scientific societies. Her own independent work as an observer was recognized by the Royal Astronomical Society which awarded her its gold medal in 1828. When Herschel died, she returned to Hanover.

Sir John Frederick William Herschel (1792-1871), the son of Sir William, had a distinguished career at the University of Cambridge. After his father's death, he carried on the work he had inaugurated. In 1834 he established an observatory at Feldhuysen, near Cape Town, to make observations of the southern hemisphere, and became as famous as his father.

A contemporary of Sir William Herschel was Pierre Simon, Marquis de Laplace (1749-1827), the famous French mathematician and astronomer. He made important discoveries regarding the planets and in his works *Celestial Mechanics* and *System of the World* developed theories of permanent interest and importance. Much of his work is understood by mathematicians alone. He

is widely known, however, as the first to urge the view that the heavenly bodies originated from the revolving vapour fire-mists known as *nebulæ*.

With his memory is associated that of the very remarkable woman Mary Somerville (1780-1872). She was the daughter of Vice-Admiral Sir William George Fairfax who was Lord Duncan's captain at the battle of Camperdown in 1797. Her birthplace was her uncle's manse at Jedburgh, Scotland, and she spent her early years at Burntisland in Fife. When only fourteen she was already a serious student of geometry and algebra, but she concealed her interests and attainments. In 1804 she married Captain Samuel Greig, who died two years later, and in 1812 she married Dr. William Somerville of the Army Medical Board.

Dr. Somerville encouraged his wife to pursue her scientific studies and she made wonderful discoveries in connexion with the magnetic influence of violet rays. It was she who wrote in English a popular account of Laplace's *Celestial Mechanics* which was published as *The Mechanism of the Heavens* (1831). This work brought her fame. "I simply," she used to say, "translated Laplace's work from algebra into common language". The Royal Society thought so highly of her work that she was admitted a member of that exclusive body.

Mrs. Somerville met Laplace in Paris and he paid a wonderful tribute to her genius. "There have," he said, "been only three women who have understood me. These are yourself, Mrs. Somerville, Caroline Herschel and also a Mrs. Greig, of whom I know nothing." Mrs. Somerville smiled and said, "I am Mrs. Greig: my first husband had that surname." Laplace exclaimed, "So then there are only two of you!"

In 1834 appeared her *The Connection of the Physical*

Sciences. Two volumes entitled *On Molecular and Microscopic Science* were published in 1866.

Mrs. Somerville lived for many years in Florence and when eighty-nine was still keenly interested in mathematical research. Her autobiography, *Personal Recollections of Mary Somerville*, a fascinating book, was published in the year after her death.

CHAPTER LIV

Women in Song and Story

Women writers of late eighteenth century birth included distinguished poets and novelists.

Joanna Baillie (1762-1851), a native of Bothwell, Lanarkshire, whose father became a professor of divinity in Glasgow, removed to London in 1784. She became known as a writer of poetic plays that have not endured, and of songs that still enjoy popularity, especially in Scotland, including "The Boatie Rows", "The Weary Pund o' Tow", and "Woed and married and a'".

Lady Nairne (1766-1845), also a Scottish lyrist, was born in the mansion house of Gask, Perthshire, and married the sixth Lord Nairne. She composed a number of famous songs like "A Hundred Pipers", "Charlie is my Darling," "Caller Herrin'," "The Land o' the Leal," "The Auld Hoose," "The Rowan Tree," "Will ye no' come back again" and "The Laird o' Cockpen".

In fiction much popularity was achieved by Maria Edgeworth (1767-1849) who was born at Black Bourton, fourteen miles from Oxford. She lived for a time in Ireland and

her famous stories which depict life in that country are *Castle Rackrent* (1800), *The Absentee* (1812), and *Ormond* (1817). Sir Walter Scott was an enthusiastic admirer of her work, and praised her rich humour and pathetic tenderness. Turgenev, the Russian novelist, has stated frankly that Maria Edgeworth's Irish novels suggested to him how he might, in similar manner, deal with Russian life.

Jane Porter (1776-1850) and Anna Maria Porter (1780-1832) were daughters of an English army surgeon. When their mother became a widow she removed from Durham to Edinburgh and Sir Walter Scott, when a student, was wont to visit the family. In 1790 Mrs. Porter went to London and afterwards settled at Esher in Surrey. Anna began to write stories at twelve and ultimately had to her credit about fifty books. Her most popular novel was *Don Sebastian* (1809).

Jane Porter wrote two romances which were very popular in her day, *Thaddeus of Warsaw* (1803) and *The Scottish Chiefs* (1810). Other novels and some plays were not very successful. *The Scottish Chiefs* was translated into French, German and Russian, and it was the only existing Scottish historical novel before Scott's Waverley novels began to appear in 1813.

The greatest of all the literary women born in the eighteenth century was Jane Austen (1775-1817). Her birthplace was Steventon Rectory, near Basingstoke, Hampshire. She received a good education, learning French and Italian, and at an early age revealed great talent as a writer. At twenty-one she began to write fiction. After her father's death at Bath in 1805 her mother removed to Southampton and in 1809 settled in the village of Chawton near Alton. Jane Austen published anonymously four novels. These were *Sense and Sensibility* (1811), *Pride and Prejudice* (1813),

Mansfield Park (1814) and *Emma* (1816). The first two named were finished a few years before her father died. After Jane Austen died, *Northanger Abbey* and *Persuasion*, both early attempts, were published for the first time. Her novels all deal with domestic life and reveal the writer as a keen and sympathetic observer with a sense of humour who could make her everyday characters more interesting and real than the heroes and heroines of the popular romantic fiction of her time. Her novels possess a literary value which has endured. Macaulay considered they were "nearer to perfection" than any novels he had read, and Scott thought her work "wonderful" with a touch which was "exquisite". Recent editions of her works testify to the fact that she has still numerous admirers.

Lady Morgan (1780-1859), who began to write under her maiden name, Sydney Owenson (changed from Mac Owen), was the daughter of an Irish actor. Among her novels, the best are *The Wild Irish Girl* (1806), *Florence M'Carthy* (1816) and *The O'Briens and the O'Flaherties* (1827). In these she gives vivid and often amusing pictures of Irish life.

CHAPTER LV

The Wizard of the North

A cripple young boy, the son of an Edinburgh lawyer, suffered from such poor health that he was sent into the country to be cared for by his grandmother at an old farmhouse. There he spent happy days. He could not run about like other children, and his grandmother and others

entertained him by telling old traditional stories and singing old songs about the "merry men" of the Border who had lived lives like Robin Hood. The boy became a pupil at a small school, the teacher of which was a queer-looking man, blind of one eye, who wore an old-fashioned wig. Among the people this Edinburgh boy came to know were some other odd characters, including gipsies. The country life agreed with him; the songs he heard made him fond of stirring poetry and the stories about heroes and heroic deeds gave him a great interest in the past.

This boy was Walter Scott (1771-1832) who was to become a famous poet and novelist, the creator of many famous characters, the teller of great romantic stories, and one who made the past seem as real as the present. He used to confess that he had "a regiment of horse exercising through his head ever since he was five years old".

When he had grown stronger and his lameness ceased to handicap him, Scott returned to the city of Edinburgh where he attended the High School and afterwards went to the University. He was a delightful companion. His boy friends found him a great teller of good stories, some of which he had heard in the country and others which he had himself invented.

In his fifteenth year Scott became a law apprentice in his father's office and at twenty-one he had qualified as an advocate (as a barrister is called in Scotland). He spent his holidays collecting old ballads in the Border counties. Sometimes his duties took him into the country, and in his twenty-second year he paid his first visit to the Highlands of Perthshire where he first saw the Trossachs district which he was to make so famous.

In 1802 he published the *Minstrelsy of the Scottish Border*—a selection of ballads which he had collected, and three

years later appeared his first romance in poetry entitled *The Lay of the Last Minstrel*, in which his love of the past was combined with his love of his native country. His local patriotism found a response in the hearts of natives of various lands. In India and America, as well as in England and Scotland, readers were thrilled by passages like the following:

Breathes there the man, with soul so dead,
Who never to himself hath said,
 " This is my own, my native land!"
Whose heart hath ne'er within him burned,
As home his footsteps he hath turned
 From wandering on a foreign strand!
If such there breathe, go, mark him well;
For him no minstrel raptures swell;
High though his titles, proud his name,
Boundless his wealth as wish can claim;
Despite those titles, power, and pelf,
The wretch, concentrated all in self,
Living, shall forfeit fair renown,
And, doubly dying, shall go down
To the vile dust, from whence he sprung,
Unwept, unhonoured, and unsung.

Marmion, a tale of Flodden, was his next narrative poem, but it was *The Lady of the Lake*, first published in 1810, that won the greatest popularity. The lake in question is the beautiful Loch Katrine in the Trossachs—a Gaelic name which signifies " rough country ". The romantic story of the king hunting there and fighting a duel with a Highland chief, of the kilted Highland warriors and the lovely heroine, wrought such a spell that tourists began to visit the district so vividly described by the poet, who was called " The Wizard of the North ". The poem, indeed, created a tourist traffic which, after the lapse of over a century, is still considerable. From all parts of the world people travel to see

the country of Scott's dream over which he cast a glamour of romance—the

Land of brown heath and shaggy wood,
Land of the mountain and the flood,
Land of my sires!

After writing several poetic romances, Scott began to issue his famous Waverley novels, the first one *Waverley*, which gave its name to the whole series, being published in 1814. For a time the identity of the novelist was a secret, Scott writing under a nom-de-plume. He held a high legal position and was shy about being known as a writer of novels. His writings brought him a good deal of money and he was anxious to acquire wealth to realize his dream of being a landed proprietor or "laird", to use the Scottish term. He purchased the lands which formed the estate of Abbotsford on the banks of the Tweed, some miles from Melrose and had erected for himself a fine mansion house. Some time previously he had become a partner in a publishing firm, a fact known to only a few at the time, but unfortunately when he was at the height of his fame this firm failed and involved him in heavy liabilities. The debt against him amounted to about £117,000, but he refused to arrange a composition with his creditors or to become a bankrupt. Instead, he set himself to pay off this enormous debt and in four years he earned by his writings sufficient to give his creditors about £70,000. In 1830 he was stricken down by paralysis, but after recovering resumed his literary work. A more serious attack in the Spring of 1831 caused him to go on a tour to Italy. He resided in Naples for several months and then went to Rome. His health declined steadily, however, and at length he set out for home. He reached Abbotsford in the summer of 1832 and there he

died on a beautiful September day, within hearing of the river Tweed which he loved so much.

Scott's Waverley novels set a new fashion in literature which we know as the "romantic movement". They stirred Dumas in France and the novelists of other countries to write picturesque and thrilling tales of the past, and they also promoted in marked degree the study of history. But Scott was something more than a writer of romance. His vivid characters are numerous and reveal him as a man with wonderful psychological insight. He was also a master in the art of comedy and is often compared with Shakespeare.

CHAPTER LVI

A Classic of Travel

On a summer day in 1804 Sir Walter Scott, then resident at Ashestiel, set out on a walk to Fowlshiels on the Yarrow river to call upon his friend Dr. Mungo Park (1771-1805), the African explorer. They had much in common. They were lovers of the Border area and greatly interested in its romantic lore, and they were fellow-authors. In his story of his travels in West Africa Park had proved himself a vivid and fascinating writer, and he had himself lived the kind of life of which Scott was wont to dream—the life of a wanderer who had had adventures in strange lands. To Scott Dr. Park must have seemed a modern Arthurian knight or living Quentin Durward. He was a tall, well-proportioned man, about six feet in height, robust and active, capable of great exertions and of overcoming severe hardships, and he was, withal, modest, cultured and friendly.

Scott found that Park was not in his cottage and went

in search of him along the river bank. He had not gone far when he caught sight of his tall friend, who seemed to be behaving like an idle boy, for he was throwing stones into a pool. When Scott hailed Park he asked the reason for the singular amusement in which he was indulging. Park very gravely explained that he had been in the habit when in Africa of ascertaining the depth of a river he wished to cross by flinging stones into it, "judging whether the attempt would be safe by the time which the bubbles of air took to ascend."

The traveller's thoughts were, unknown to his wife and friends, concerned about another visit to Africa. He appears to have confided in Scott who kept his secret. Park had for a few years attempted to settle down as a medical practitioner in the Peebles area, but wearied of the monotony and drudgery of this form of life. He then returned to the little farmhouse at Fowlshiels in which he had been born and was there studying Arabic and becoming proficient in the use of astronomical and surveying instruments. During a visit to London he had had an interview with Lord Hobart (afterwards the Earl of Buckingham), Secretary of State for the Colonial Department, with regard to a West African exploring expedition, and he was waiting for the official intimation that all preparations had been made. When the looked-for official letter arrived, Park informed Scott who invited him to Ashestiel where he spent the night. Next day the friends rode together towards Fowlshiels through the country between the Tweed and the Yarrow. They parted on the edge of a moor. Park's horse stumbled when crossing a small ditch and Scott said, "I am afraid, Mungo, that is a bad omen." His friend smiled and repeated the proverbial saying, "Freits (omens) follow those who look for them". The two friends then parted, never to meet

again. Park did not inform his wife of the African journey when he finally left his home, fearing that the parting would be most distressing. He stated simply that he had business to do in Edinburgh, and on reaching that city, where he obtained medicines and instruments, he wrote a formal farewell to Mrs. Park.

Park had taken his medical degree at the University of Edinburgh and in his twenty-first year went to Sumatra as assistant-surgeon on the *Worcester*, an East Indiaman. On his return he was appointed by the Association for Promoting Discoveries in the Interior of Africa to explore the course of the river Niger in West Africa, and sailed from Portsmouth in May, 1795. He resided for a time with Dr. Laidley at a station on the Gambia river and there acquired a knowledge of the Mandingo language. Then he set out to search for the Niger, with his horse, a negro servant and a boy. Two years were occupied by his travels. His route was in a north-eastward direction and he reached the river Niger near Segu, exploring part of its course in July, 1796. He met with many adventures. On one occasion when both he and his horse were wearied, a native guide shouted a warning regarding a "wara billi billi" (a very big lion). They were passing at the time through wooded country and Park, seeing no lion, thought the guide was mistaken. Then to his great surprise he beheld "a large red lion at a short distance from the bush with his head couched between his forepaws." Park continues:

"I expected he would instantly spring upon me, and instinctively pulled my feet from my stirrups to throw myself on the ground, that my horse might become the victim rather than myself. But it is probable the lion was not hungry, for he quietly suffered us to pass, though we were fairly within his reach. My eyes were so rivetted upon this sovereign of the beasts, that I found it impossible to remove them until we were at a considerable distance."

Park found that he had more to fear from human enemies than wild animals. The Arabs made him a prisoner and he suffered much at their hands, sometimes not only from the want of food but even of water. In the end he was fortunate in effecting his escape. Fever, dust-storms and floods during the rainy season greatly hampered his movements. At some villages he was denied shelter and food owing to the influence of the Arab slave-traders. On one occasion he had to give up his blue coat to an African king who fancied it. His compass was seized by an Arab, but was returned to Park when he stated the needle always pointed to the place where his mother lived and would point in another direction after she died. The superstitious man feared to retain so mysterious an instrument. Park's narrative of his wanderings contain graphic descriptions of the country he passed through and the manners and customs of the various peoples with whom he came into contact. Withal, it is suffused with his own interesting personality and makes the reader share in his varied experiences and emotions. His own story of his wanderings is one of "the classics of travel".

Joseph Thomson, a later explorer, declared regarding him that, "for actual hardships undergone, for dangers faced and difficulties overcome, together with an exhibition of the virtues which make a man great in the battle of life, Mungo Park stands without a rival".

Park's second expedition of 1805 ended in disaster. He was accompanied by Mr. George Scott and his brother-in-law Mr. Alexander Anderson, and after reaching the West African coast was given a force of thirty-five soldiers who had volunteered to accompany him. From Pisania on the river Gambia they advanced to Sansanding on the Niger where a boat was built for the purpose of exploring the

river down to the sea. The rainy season had caused terrible sufferings and Scott, Anderson and most of the soldiers died from disease. When the expedition set out from Sandanding in November, 1805, it consisted only of Dr. Park and four other white men, four native slaves and Amadi Fatoumi, a guide and interpreter who was to accompany them a part of the way. Canoes with armed men came out at various places to intercept and plunder the exploring vessel and had to be driven off with musket fire. Three canoes attempted an attack when passing Timbuctoo; seven were beaten off at Gouroumo and shortly afterwards a white man died of fever. No fewer than sixty canoes followed Park's boat further down the river and had to be repulsed, many of the hostile natives being killed or wounded. At Kaffo Amadi Fatoumi was sent ashore to buy milk. He was seized by men who threatened to kill him, but Dr. Park secured his release by threatening to open fire. Twenty canoes afterwards followed the boat and, when within hail, a native asked for a present. Dr. Park gave some amber and trinkets and the natives then turned back.

Amadi Fatoumi left the boat on reaching the kingdom of Haoussa (the Hausa tribe), having fulfilled his engagement as guide. A chief was given presents from Dr. Park, but the cunning native withheld them from the king, pretending he had received nothing. The king was indignant and sent an armed force to intercept the explorer. At the rapids of Bussa armed men took up position on a granite rock jutting over the river, and they attacked Park's boat with lances, pikes, arrows, and stones. The white men fought until they were exhausted. Then Park and the others leapt into the river in an attempt to swim downstream under the rock, but were all drowned.

It was not until six years after this disaster took place

that particulars of the fate of Dr. Park, the famous explorer, became known to his fellow-countrymen. His last letter to his wife was written from Sansanding on 19th November, 1805, and in it he expressed the hope that he would reach the mouth of the Niger by the end of January, 1806. "The reason for our delay since we left the coast," he wrote, "was the rainy season, which came on us during the journey; and almost all the soldiers became affected with the fever We, this morning, have done with all intercourse with the natives; and the sails are now hoisting for our departure for the coast."

CHAPTER LVII

Two Geniuses of Science

"During your stay in London," said Amos Cottle, the Bristol bookseller and publisher, to the poet Coleridge, "you doubtless saw a great many of what are called the cleverest men. Well, how do you estimate Davy in comparison with these?"

The reference was to Humphry Davy (1778-1829), a Cornishman of twenty-two, who had become known as an original investigator in chemistry, a promising poet, an original thinker and a wonderful talker.

"Why," said Coleridge with enthusiasm, "Davy can eat them all! There is an energy, an elasticity, in his mind which enables him to seize on and analyse all questions, pushing them to their legitimate consequences. Every subject in Davy's mind has the principle of vitality. Living thoughts spring up like turf under his feet."

Davy was a native of Penzance, the son of a wood-carver and the eldest of five children. When he was about sixteen his father died and his mother took in lodgers. One of these was Gregory Watt, son of the famous James Watt, the engineer. He was suffering from consumption and had just left Glasgow University. Young Davy and he became very friendly and a result of their association for a few months was that Davy resolved finally to devote himself entirely to science. He had become interested in chemistry and began to conduct experiments with tobacco pipes, cups, wine-glasses, crucibles, etc. At seventeen he was apprenticed to a surgeon and became friendly with Mr. Davies Gilbert, a wealthy man who had in his house a good scientific library and an excellent laboratory. Davy set himself a course of reading and conducted experiments that attracted attention. In 1798 he became assistant to Dr. Beddoes in the Pneumatic Institution, Bristol. There he experimented on the respiration of gases and investigated the effect of "laughing gas", (nitrous oxide) finding that it allayed fatigue, induced sleep and stimulated his mind. He described in a poem his feelings when under the influence of this gas:

Not in the ideal dreams of wild desire
Have I beheld a rapture-wakening form:
My bosom burns with no unhallowed fire
Yet is my cheek with rosy blushes warm;
Yet are my eyes with sparkling lustre filled;
Yet is my mouth replete with murmuring sound;
Yet are my limbs with inward transports filled,
And clad with new-born mightiness around.

Nitrous gas became a common anæsthetic agent and is used by dentists.

Davy ran risks experimenting with other gases. One

day he inhaled gas made by passing steam over charcoal, became unconscious and nearly lost his life.

In 1799 he published his *Researches, Chemical and Philosophical* which led to him being appointed to the Royal Institution, London. It was part of his work to deliver public addresses and before long he was the most popular lecturer in the metropolis. He was a born orator and had the faculty of making chemistry interesting to his hearers. Aristocrats, professional men, traders and workers flocked to hear him and he was "lionized" by society. For twelve years he drew large audiences who were fascinated by what he had to tell them about his laboratory work, and followed his demonstrations with keen interest. He had his critics, of course. Sir Joseph Banks cut off his connexion with the Institution, declaring that it was "in the hands of the profane". Others shook their heads because Davy spoke in simple language, free from technicalities and indulged in poetic metaphors and rhapsodies regarding the mysteries and beauties of nature. Not only did he popularize scientific research, but saved the Royal Institution from bankruptcy.

Davy's head was not turned by his popularity. Every morning was devoted to research and he made a great many wonderful discoveries. He established the true chemical nature of the electrolysis of water and solved the problem of the alkali metals, potassium and sodium. With a powerful battery, presented to him by public subscription, he produced, amidst enthusiasm, at one of his popular lectures the first electric arc light. It was he who determined the properties of iodine and directed the earliest work in the liquefaction of gases. In agricultural chemistry he was a pioneer. One of his famous achievements was the introduction of the safety-lamp for miners. Explosions of "fire damp" in coal pits were causing the loss of many lives and

Davy, after conducting experiments, invented the gauze-protected lamp which prevented explosions. He refused to patent it and thus make a fortune from the profits. The lamp which has saved thousands of lives was his free gift to his fellowmen, in behalf of whose welfare he devoted his energies and genius.

Davy was knighted by the King for his services to science and afterwards made a baronet. His researches in electro-magnetism caused him to be elected President of the Royal Society in succession to Sir Joseph Banks. He did not live to be an old man. In 1826 an apoplectic attack arrested his activities and he twice wintered in Italy. He was on his homeward journey when he died at Geneva at the age of fifty-one.

Davy's favourite recreation was angling. He once spent a fishing holiday at Abbotsford with his friend and admirer Sir Walter Scott. In his *Consolations of Travel*, written in Rome, and published in the year after his death, he tells of fishing experiences in Scotland. The invalid in Italy had visions of his favourite sport. "See," he wrote, "Loch Maree is stretched at our feet and a good boat will carry us in four or five hours to our fishing ground; and that time will not be misspent, for this lake is not devoid of beautiful and even grand scenery But what is that bird soaring above the pointed rock towards the end of the lake? Surely it is an eagle?"

Sir Humphry Davy was, until the end, a combination of poet and scientist.

It was he who discovered Michael Faraday (1791-1867) the son of poor parents, a former newsboy and bookbinder's apprentice. He was one of the many who attended the Royal Institution lectures and he wrote to Davy telling of his ambition to become a scientist. Faraday was before

long given a post at the Institution. Like Davy, he was self-educated and he similarly proved himself a man of genius. Under Davy's direction he made rapid progress and his discoveries included the distillation of benzine from coal tar. He also performed important work in experimental electricity and his discoveries made possible the invention of the dynamo, the electric motor, the X-ray and other applications of this form of energy. He refused offers of manufacturers which would have brought him wealth, and when his health failed received a government pension which prevented him from dying in poverty. As in the case of Davy, his services were devoted to mankind, and one of his scientific friends referred to him as the "just and faithful knight of God". Among his famous books are *The Various Forces of Nature*, *The Chemical History of a Candle*, and *The Non-metallic Elements*.

CHAPTER LVIII

An English Renaissance

In the early part of the nineteenth century came a literary renaissance in English poetry which was as distinctive and as brilliant as the great renaissance of which Petrarch and Boccaccio were the heralds in Italy. Poetic art had become artificial and overweighted by formalism, verse being written in a conventional style which narrowed the outlook of the writer and even suppressed the individual note. The poet's emotions were held in check; his manner was regarded as of more importance than his matter. Clever as

the versifying was, the poems were lacking in imaginative insight, range of vision and the inspiration of beauty.

The poets who set the fashion which led to the production of so much artificial verse were John Dryden (1631-1700) and Alexander Pope (1688-1744) whose writings were more remarkable for their vigour and artistry than real beauty; both were great satirists and great wits, but compared with Shakespeare and Milton "cribbed, cabined and confined".

The poet Keats satirized the imitators of Dryden and Pope in his "Sleep and Poetry". He found their verse monotonous:

With a puling infant's force
They swayed about upon a rocking horse,
And thought it Pegasus.

They also, as Keats insisted, neglected the beauties of Nature—the inspiration of winds and ocean, of summer nights and dewy morns. "Beauty was awake" but they were not awake, being

closely wed
To musty laws lined out with wretched rule
And compass vile: so that ye taught a school
Of dolts to smooth, inlay, and clip, and fit
Till like the certain wands of Jacob's wit
Their verses tallied.

James Thomson's "Seasons" (1726-1730) drew inspiration from Nature in a limited fashion and certainly introduced a new spirit into the poetry of the period. Gray in his "Elegy in a Country Churchyard", a sonorous and moodful poem, betrayed the influence of Milton, but shrank from the expression of pure poetic emotion. Like Collins, also a true poet, he was made timorous by convention. Robert Burns, the Scottish poet, in his dialect poems was a pioneer of the renaissance, but in English he was

usually similarly restrained by the prevailing fashion. William Blake (1757-1827) was in revolt against the artificial style and wrote naturally and sometimes with flashes of real beauty as in his "Evening Star":

Let thy west wind sleep on
The lake; speak silence with thy glimmering eyes,
And wash the dusk with silver.

William Cowper (1731-1800) was another pioneer, although less free from the conventionalism of the eighteenth century.

When in 1802 Sir Walter Scott published his *Border Minstrelsy* he re-introduced the glamour of romance into English literature. Meanwhile William Wordsworth (1770-1850) and his friend Samuel Taylor Coleridge (1772-1834) had definitely begun to make the literary renaissance a reality. Their "Lyrical Ballads" came out in 1798 and illustrated their poetic ideals. Both avoided the rhetorical style of writing, expressing themselves in simple, direct and artistic manner, writing in the language of every-day speech and yet with a fine sense of beauty, using "the right word in the right place". They were inspired by nature's beauties and, especially in the case of Coleridge, by the spirit of old romance. In the first slim volume of "ballads" appeared Coleridge's "The Ancient Mariner" in which he visualized scenes and related experiences of purely imaginative quality and made them convincing. He was a wonderful metrist and a wonderful word-painter. In a few words he flashes a picture before us:

And the coming wind did roar more loud,
And the sails did sigh like sedge;
And the rain poured down from one black cloud;
The moon was at its edge.

Pope would have written of "the orb of night" and the "horrid cloud".

Coleridge did not write a great many poems, but his "Ancient Mariner", the unfinished "Christabel" and the fragment "Kubla Khan" are among the great achievements in English literature.

Wordsworth, on the other hand, was a voluminous writer, but his poems are of unequal merit. At his best he gives us, in Coleridge's words,

An orphic song indeed,
A song divine of high and passionate thoughts
To their own music chanted.

Wordsworth's longest works are "The Prelude" and "The Excursion" which are autobiographical, dealing with the development and experiences of the poet. He tells of the appeal made to him by nature:

I heard among the solitary hills
Low breathings coming after me, and sounds
Of undistinguishable motion, steps
Almost as silent as the turf they trod.

He was caught in the spell of

The light that never was on sea or land
The consecration and the poet's dream.

In his greatest work Wordsworth achieved a loftiness of expression which makes him worthy of comparison with Shakespeare and Milton.

Lord Byron (1788-1824), affected great admiration for Dryden and Pope, began as a satirist who ridiculed Scott, Wordsworth and Coleridge, but was yet strongly influenced by these writers. In his later writings he cultivated a naturalness which he had learned from Wordsworth, as he had

previously developed the romantic spirit inspired primarily by Scott and Coleridge.

Percy Bysshe Shelley (1792-1822) became one of the greatest lyric poets of England, as is shown by his "Ode to the West Wind", "The Skylark", "The Triumph of Life" and "Prometheus Unbound". His smaller lyrics are of exquisite beauty. One addressed to a lady singing to her accompaniment on the guitar begins,

As the moon's soft splendour
O'er the faint cold starlight of heaven
Is thrown,
So thy voice most tender
To the strings without soul has given
Its own.

He wrote his "Adonais" in praise of John Keats (1795-1821) who died in his twenty-sixth year. In it he referred to other poets. Milton is "the sire of an immortal strain" who died "blind, old and lonely",

but his clear Sprite
Yet reigns o'er earth; the third among the sons of light.

Byron is

The Pilgrim of Eternity, whose fame
Over his living head like Heaven is bent,
An early but enduring monument.

He himself is

A phantom among men, companionless
As the last cloud of an expiring storm
Whose thunder is its knell.

Keats, like Shelley, was strongly influenced by Milton. He often packed his lines with rich beauty as in

Mid hushed, cool-rooted flowers, fragrant eyed.

His famous odes include one addressed to a nightingale in which he imagines the bird as an immortal:

Thou wast not born for death, immortal bird!
No hungry generations tread thee down;
The voice I hear this passing night was heard
In ancient days by emperor and clown:
Perhaps the self-same song that found a path
Through the sad heart of Ruth, when, sick for home,
She stood in tears amid the alien corn;
The same that oft-times hath
Charm'd magic casements, opening on the foam
Of perilous seas, in faery lands forlorn.

The poetry of the new renaissance in English literature is the expression of poetic minds very sensitive to the appeal made by nature's beauty and the noblest traits of humanity. Lofty emotions and ideals are rendered articulate by the great poets in their rhythmical and melodious word-music, beautiful in itself. Readers sensitive to the æsthetic appeal share in the refining emotions of the poets and come under the spell of their inspiration. Sincerity and intensity of thought and feeling, expressed clearly and artistically, are characteristics of the greatest of the poets.

CHAPTER LIX

The Pioneer of Railways

It can be said of George Stephenson (1781-1848), the pioneer of railway transport, that he made his influence felt all over the civilized world. His life story is an inspiring one. He had an active and ingenious mind, but he would never have risen into prominence had he not been also a

devoted student of strong character and a hard worker. His father was a collier and he himself was born in Wylam, near Newcastle. Education was not compulsory or free in his boyhood and he did not attend school. He began to work as a herd when yet very young, but his interest was in engines and during his leisure time he was wont to make clay models of pit pumps. His early ambition was to be an engineman. He was still a lad when he was given charge of a pumping engine and earned twelve shillings a week. On receiving this appointment he exclaimed with pride, "I am now a made man for life."

Stephenson became greatly interested in the wonderful new steam engines manufactured by the Birmingham firm of Boulton and Watt. These were fully described in books, but he could not read. It was then that he began to attend night schools. He was actually nineteen years of age before he learned to sign his own name. Stephenson applied himself earnestly, however, to his class work. He found in Andrew Robertson, a Scottish teacher, a good friend and instructor, and he made rapid progress, especially in arithmetic. Meantime he earned an excellent reputation as a diligent and intelligent worker. A Scottish firm on the look-out for a good engineer selected him to take charge of a Boulton and Watt engine in a spinning works near Montrose. There Stephenson worked for about a year. After his return to his native county he became known as an "engine doctor", and in 1812 was appointed engine-wright at Killingworth High Pit at a salary of £100 a year. His leisure time was devoted to self education.

Stephenson was in his twenty-second year when he was asked by a colliery firm to build a locomotive which would run on rails. For about half a century experiments had been made in steam traction. Cugnot, a French engineer,

had in 1763 made a model of a steam-carriage and a few years later one was built to drag cannon, but its speed was only about two-and-a-half miles an hour. An improved locomotive met with disaster in a Paris street. Richard Trevithick, a Cornishman, took out a patent for a steam carriage in 1802 and he subsequently exhibited one in London. Meantime, experiments were being made in laying railroads along which trucks were hauled by horses. Trevithick's second engine was constructed to run on rails and was introduced at Pen-y-darran in South Wales. It worked fairly well for a time, but damaged the railroad a good deal. An engine which ran on raked- or toothed-rails was introduced by Mr. Blenkinsop at Leeds in 1811 and ultimately it hauled about thirty wagons of coal at a speed of a little over three miles an hour. Experiments were meantime carried out by Mr. Blackett of Wylam and the Wylam locomotive, which was gradually improved, came into use. Stephenson studied both the Blenkinsop and Wylam locomotives before he began to build his first "travelling engine", which was placed on the Killingworth railway on 25th July, 1814. It hauled eight carriages of thirty tons weight at the rate of about four miles an hour. The cost of running was about the same as that of horsepower. Then Stephenson introduced an improvement which greatly increased the power of the locomotive. This was the "steam blast". The steam had previously been allowed to escape from the cylinders with a hissing blast that terrified horses and cattle; Stephenson, by means of a small pipe, led the escaping steam into the engine funnel, thus increasing the draught and causing the fire to give more heat, with the result that the steam was generated in greater volume and strength. Stephenson's next locomotive was a great improvement on the first and then he

began to attend to the railroad. The Killingworth railway was in use for several years, but did not attract as much attention as might have been expected. On a railway constructed from Darlington to Stockton-on-Tees, which was opened in September, 1825, Stephenson acted as driver on one of his locomotives. There were thirty-eight vehicles on the train, including a number fitted with seats for passengers.

The next railway planned was one between Manchester and Liverpool. George Stephenson was the construction engineer and he had not only to have cuttings and tunnels made and bridges built, but also to cross Chat Moss. The railway embankment across the bog was difficult to build. Some engineers thought it an impossible scheme, but Stephenson made a "floating road", the sleepers being supported on a matting of heath and tree branches covered with gravel, so that the railway ran on a sort of "elongated raft". This Chat Moss road was finished by 1st January, 1830, and is still in use.

The railway directors were, at first, not certain whether trains should be pulled by locomotives or hauled by stationary engines erected at various points. At length it was decided to offer a prize of £500 for the best type of travelling locomotive. It was then that Stephenson built "The Rocket", with the aid of his son Robert, who had been educated at Edinburgh University. The test to be undergone was to haul twenty tons weight at ten miles an hour. Stephenson was an easy winner and afterwards amazed everyone by running his engine along the line at the speed of thirty-five miles an hour. The first train on the Manchester-Liverpool railway ran on 14th June, 1830, and the formal opening ceremony took place on 15th September in the same year.

So successful was the Manchester-Liverpool railway that

other railway schemes were promoted in different parts of England and Scotland. Then a beginning was made in railway building on the Continent. Surveys were carried out by George Stephenson in Belgium and Spain, and Robert Stephenson was employed in Egypt and Canada as well as at home.

George Stephenson did much to improve railway running. It was he who introduced spring buffers, the signalling system, the self-acting brake on all carriage wheels, and many other improvements. He revolutionized transport not only in his own country but throughout the world, inaugurating a new era of progress. He was thus one of the great leaders of mankind and a "maker of history".

CHAPTER LX

The First Steamers

James Watt's engine made possible not only the railway locomotive, but the steamship. In 1770, when a proposal was urged to fit canal boats with a steam engine, Watt wrote to a friend, "Have you ever considered a spiral oar for that purpose, or are you for two wheels?" He enclosed a sketch of the "spiral oar", which resembled the screw-propeller that subsequently came into use. The first steamers were, however, fitted with paddles.

Patrick Miller of Dalswinton, from whom Robert Burns, the poet, rented a farm, devised a marine engine which was constructed in 1788 by William Symington, Edinburgh. In 1801 Symington constructed an improved engine on a

Watt model, which was used to drive a stern paddle-wheel of a canal boat.

Robert Fulton (1765-1815), a native of Lancaster, Pennsylvania, U.S.A., during his residence in England, studied Watt's double-acting engine. He visited Scotland, of which country his father was a native, and obtained drawings of the *Charlotte Dundas*, a steam vessel driven by Symington's engine which had come into use on the Forth and Clyde Canal. On his return to America he built a steamer named the *Clermont*, which in August, 1807, made a successful trial trip on the Hudson river at the rate of five miles per hour.

Henry Bell (1767-1830), a native of Linlithgowshire, who settled in Helensburgh, was a self-tutored engineer, and introduced the first ocean-going steamer, which was named the *Comet*. Its first trial took place on the River Clyde in January, 1812. This vessel had a keel length of about forty feet, and an engine of about four horse-power and two paddles, its maximum speed being seven and a half miles an hour. She plied for a time between Glasgow and Greenock, and afterwards on the Forth. In 1825 she made a voyage to Inverness and Cromarty, but met with disaster on her return to Greenock. On 21st October of that year she collided with the steamboat *Ayr*. There were nearly seventy persons on board and only nine were rescued. This was not the first steamboat disaster, for on 10th August, 1822, the steamboat *Hercules* ran down a sailing vessel, the *Catherine* of Iona, off Greenock, when forty-two lives were lost, only four persons being rescued.

Bell did not profit by his enterprise, and in his latter years received an annuity from the city of Glasgow. There is a monument to his memory near Bowling.

The screw propeller suggested first by Watt was ultimately invented by a sheep farmer named Francis Pettit

Smith, a native of Hythe, England. He was twenty-six when, in 1834, he made his first model. It was patented two years later and first fitted to a Thames steamer. In 1843, the *Great Britain*, 274 feet in length, the largest steamer built till that date, was fitted with Smith's screw propeller. The first British warship with a screw propeller was the *Rattler*, a vessel of 888 tons. Smith was knighted in 1871, three years before he died. He had been presented previously with the sum of £2000 subscribed by the Civil Engineers, awarded a Civil List pension of £200, and made curator of the Patent Museum, South Kensington, London.

CHAPTER LXI

Nineteenth Century Poetesses

A group of poetesses achieved distinction in the nineteenth century.

Ann Taylor (1782-1868) and Jane Taylor (1783-1824) were the daughters of Isaac Taylor. They were born in London and brought up at Lavenham, Suffolk, and wrote hymns which became popular, Ann's best being "Great God, and wilt Thou condescend", and Jane's "Lord, I would own Thy tender care". Ann was the wife of the Rev. Joseph Gilbert, a Congregational minister. Both published books of poems. "The Song of the Tea-kettle" by Ann, and "The Squire's Pew" by Jane, are still appreciated. Their brother, Isaac Taylor (1787-1865), was in his day a popular writer on religious philosophy and other grave subjects.

Mrs. Hemans (1793-1835), whose maiden name was

Felicia Dorothea Browne, was a native of Liverpool. When she was in her seventh year the family removed to Gwrych, near Abergele, North Wales, and her first book of verse was published when she was only in her fifteenth year. In 1819 she won a prize of £50, offered by a Scotsman for the best poem on Sir William Wallace, and when some years later she visited Scotland, she was honoured by Sir Walter Scott. Wordsworth showed her much kindness when she called upon him. Her husband, a wayward Irish army officer, deserted her in 1818, and she wrote industriously to earn money for the education of her five sons. Her poetic gift was genuine, but its range rather limited. Some of her shorter pieces are very beautiful, such as "Calm on the bosom of thy God", "The Homes of England", "The Better Land", and "The Graves of a Household". To many she is known chiefly by her poem, "Casabianca". One of her hymns, "He knelt, the Saviour knelt", is still a favourite.

Letitia Elizabeth Landon (1802-38), wrote chiefly as "L. E. L.", and was in her time a popular poetess. She was born in Chelsea, London, and married Mr. George Maclean, Governor of part of the Gold Coast Colony. Her poems include "The Pole Star" and "On the Picture of a Child Screening a Dove from a Hawk".

Helen Selina (1807-67), the wife of the fourth Lord Dufferin, was from her girlhood a writer of verse. Her best known poem is "The Lament of the Irish Emigrant", beginning:

I'm sitting on the stile, Mary,
Where we sat side by side.

Caroline Elizabeth Sarah Norton (1807-77), her sister, wrote poems and stories, and contributed to magazines.

Adelaide Ann Procter (1825-64) was a popular poetess,

whose *Legends and Lyrics* went through many editions. "The Lost Chord" and "Cleansing Fires" are still widely known, as are also her hymns, "My God, I thank Thee" and "I do not ask, O Lord".

The greatest of the nineteenth-century poetesses was Elizabeth Barrett Browning (1806-61), wife of Robert Browning, the poet. She was born at Burn Hall, Durham, and spent her girlhood at Hope End, near Ledbury, Herefordshire. When still young, she sustained a serious injury by a fall from a pony and for long she was an invalid. Her mind remained active, however, and when only seventeen she had issued her first volume of poems. Her father, having suffered financial losses, removed to London, and there she became famous on the publication of her stirring poem, "The Cry of the Children", in which she voiced the cause of the very young people who were forced to work in mines and factories:

For, all day, we drag our burden tiring,
Through the coal-dark, underground—
Or, all day we drive the wheels of iron
In the factories, round and round.

They look up, with their pale and sunken faces,
And their look is dread to see,
For they mind you of the angels in high places,
With eyes turned on Deity;—
"How long," they say, "how long, O cruel nation,
Will you stand, to move the world on a child's heart?"

An American visitor described her as "a very small, very slight woman, with very long curls drooping forward, almost across the eyes, hanging to the bosom, and quite concealing the pale, small face, from which the piercing inquiring eyes looked out sensitively at the stranger."

When Robert Browning began to publish his poems

she was among the earliest to detect his genius. In time the couple met and fell in love and desired to be married. Mr. Barrett opposed the match, but on the forenoon of 12th September, 1846, they were secretly married in a London church, and then they went away to the Continent. Mrs. Browning soon enjoyed much better health, and in the Italian town of Pisa a friend who visited her said, "She is not merely improved, but transformed." The Brownings lived for periods in Florence and Rome, and paid visits to England. Their married life lasted for about fifteen years and was very happy. The poetic record of their courtship is contained in a series of forty-four sonnets by Mrs. Browning, which were published under the title *Sonnets from the Portuguese*, as if they were translations. The first reveals her as an invalid who was not expected to live long. In her lonely room, as the poem states, she became aware of a presence which cast a shadow over her:

A mystic Shape did move
Behind me, and drew me backward by the hair,
And a voice said in mastery, while I strove, . . .
"Guess now who holds thee?"—"Death," I said. But, there,
The silver answer rang, . . . "Not Death, but Love."

Her longest and most ambitious poem was "Aurora Leigh", in which she told a romantic story and gave poetic expression to her views on art and life. Among her shorter poems the finest are "Cowper's Grave", "Lady Geraldine's Courtship", "The Deserted Garden", and "Rosalind's Scroll". After her death, which took place at Florence, Browning paid a noble and beautiful tribute to her memory in the first part of his *The Ring and the Book*, beginning with the lines:

O lyric Love, half angel and half bird,
And all a wonder and a wild desire.

Christina Georgina Rossetti (1830-94), another great poetess, was a native of London and of Italian descent. Her genius was lyrical and her melodious verses echo her love of music. "My heart is like a singing bird," she sang of herself. Some have written of her as "a female Shelley".

CHAPTER LXII

An Anti-Slavery Leader

When in 1861 the four years' civil war broke out in America over the slavery question, the great leader of the liberation party was Abraham Lincoln (1809-65), who became a world-famous man. He had been elected President of the United States in November, 1860, and assumed office in March, 1861, about a month after the Southern States took arms in defence of slavery against the Federal government.

Lincoln had from his boyhood shown great strength of character in pursuing his ideals. He was the son of a small farmer in Kentucky, and learned to write by forming letters and words on a slab of wood, using a short stick that had been given a charcoal point by being thrust into a fire. With the aid of an old school-book he studied arithmetic. There were no regular schools in the area in which he was brought up and for a time he attended a temporary one, in which he made rapid progress. By the time he was seventeen he had grown almost to his full height of six feet four inches.

After working as a farm labourer and ferryman, he went to New Orleans in charge of a boat and cargo, and there

he saw for the first time a gang of negro slaves in chains and being whipped as if they were dumb animals. He was horrified and lamented the great wickedness of slavery.

At New Salem, Illinois, having done much to educate himself, he opened a store (shop) and acted as postmaster. His spare time was devoted to study, and he ultimately became qualified to act as a land surveyor. In 1834 he was elected a member of the state legislature of Illinois, and then definitely began his political career. Two years later, having studied law, he became a lawyer and won a wide reputation for his fairness and honesty. He was, in time, elected to Congress, and came prominently to the front as leader of the party which was resolved to suppress slavery. Then he won the Presidential election, and when the slave party of the Southern States began to arm, he said in one of his famous speeches, "I see a storm coming . . . I know that I am right because I know that liberty is right."

After war broke out, the Southern States army achieved successes, but Lincoln called time and again for recruits to fight to maintain the Union, the slave party being resolved to set up a separate government. On 1st January, 1863, Lincoln issued a proclamation which declared that all slaves were free. The tide of war turned heavily against the Confederates of the Southern States in that year. On 3rd July they were defeated at Gettysburg, and when on 2nd April, 1865, the Republican army won a great victory in Virginia, under the leadership of General Grant, the war was virtually brought to an end.

Lincoln had been elected President for a second time, and was preparing to undertake the work of conciliation and reconstruction when his career was brought suddenly to a tragic end. He attended a special performance in Ford's Theatre, Washington, occupying a box. An actor,

named John Wilkes Booth, crept up behind him and shot him through the head with a pistol. In the confusion the assassin escaped, but was followed by soldiers, and, refusing to surrender, was himself shot dead.

Lincoln died on the day after he was wounded. He had, however, accomplished his life-work, having secured the abolition of slavery in the United States of America.

CHAPTER LXIII

Two African Explorers

“Never to relinquish his work, though his heart yearns for home; never to surrender his obligations until he can write ‘Finis’ to his work.” Thus did Henry M. Stanley pay tribute to David Livingstone (1813-73), the great African explorer, whom he searched for and found at a time when the people of Britain and America had grown anxious regarding Livingstone’s fate, no news having been heard of him from Central Africa for three years. Stanley was a journalist, and Mr. Bennett of the *New York Herald* said to him one day in Paris, “I think Livingstone is alive, and I am going to send you to find him.”

Stanley set out, and on reaching Zanzibar organized and led an expedition across the then unknown Tanganyika territory to Ujiji on the eastern shore of Lake Tanganyika. When at length on 10th November, 1817, Stanley caught sight of the explorer, looking pale and wearied, he wanted to embrace him, but being surrounded by negroes and Arabs, he felt embarrassed, and simply lifted his hat and said, “Dr. Livingstone, I presume.” Dr. Livingstone,

raising his cap, replied "Yes," and smiled. Then the two white men shook hands. "I thank God, Doctor, I have been permitted to see you," Stanley then said, and Livingstone responded, "I feel thankful that I am here to welcome you."

Stanley provided Livingstone with supplies of food and clothing, of which he was in great need, and remained with him for four months and four days. "Each day's life with him," Stanley wrote afterwards, "added to my admiration for him." For six years Livingstone had not seen or spoken to a white man, but he refused to go home with Stanley, although in failing health, because he had not finished the work of exploration he had undertaken to perform. He was searching for the sources of the Nile and collecting information which would lead to the opening up of Central Africa to trade and missionary effort, and the suppression of the terrible slave traffic then so rife.

Livingstone was a native of Blantyre in Lanarkshire, and the son of a Hebridean from Ulva, a little island off the west coast of Mull, the Gaelic form of the family surname meaning "son of the physician". Livingstone's great-grandfather, a Jacobite, was killed in the battle of Culloden, and several of his uncles served as British sailors or soldiers in the Napoleonic wars. When Livingstone was only ten, he began to work in a Blantyre cotton-mill from six in the morning till eight o'clock at night, but during the winter he attended classes after the day's work, or studied at home. At sixteen he was able to read the Latin poets Virgil and Horace, and was taking a great interest in botany and geology. He became a cotton spinner at nineteen, and then saved enough money to be able to attend medical and other classes at Glasgow University. When each university session ended he returned to the mill. He ultimately took

his medical degree, and in 1840 he went to South Africa as a medical missionary under the auspices of the London Missionary Society. His first station was that of Robert Moffat, the missionary, in Bechuanaland, where he laboured for nine years. Then he began to explore the then unknown interior of Africa. He was the first white man to discover Lake Ngami and the Victoria Falls of the Zambesi, and to cross the continent to St. Paul de Loanda on the South Atlantic coast. The story of his adventures and difficulties was told in his *Missionary Travels* (1857), which aroused great interest at the time, and is still a fascinating book. He was next employed by the British Government to explore the Zambesi, and his discoveries included those of Lake Shirwa and Lake Nyassa. In his second book, *The Zambesi and its Tributaries* (1865), Livingstone exposed the slave traffic in the interior. His third journey was undertaken at the request of the Royal Geographical Society, which wished to have information regarding the watershed of Africa and the sources of the Nile. On this arduous journey beginning at Zanzibar on 28th March, 1866, he spent the rest of his life. He discovered Lake Moero and Lake Bangweolo, and saw the river Lualaba, which he thought might be the upper Nile, but was not certain. It was really the upper Congo, as he would have ascertained had he lived to continue his work. He experienced great sufferings and perils, and was in failing health. For about three years until Stanley reached him at Ujiji on 10th November, 1871, no word of him had been heard. Stanley accompanied him to the north of Lake Tanganyika, and they parted on 14th March in the following year. Stanley brought back Livingstone's dispatches, letters, and journal. The great explorer resolved to finish his exploration work, but again fell into bad health and died at Chitambo's Village (Ilala) on 1st May, 1873. His body was

embalmed by natives, carried to Zanzibar, and dispatched to England, and on 18th April, 1874, interred near the centre of the nave of Westminster Abbey, London.

Livingstone was the greatest explorer of his time. He proved himself a real hero with a high sense of duty. When Stanley urged him to return home, his characteristic answer was, "No; not until my work is ended." He was above the average height and well built and had brown hair, bright hazel eyes, and a dignified bearing. By the natives of Africa, who knew him as an upright and honourable man, he was greatly respected and trusted. His memory was so good that he could repeat many long poems, and he had a great fund of quiet humour which made him a most companionable man. "To the stern dictates of duty alone," wrote Stanley, after meeting him, "has he sacrificed his home and ease, the pleasures, refinements and luxuries of civilized life. . . . An extreme love of truth is one of his strongest characteristics . . . a Christian gentleman."

Henry Morton Stanley (1814-1904), who became a famous African explorer, and was knighted, had a remarkable career. He was born near Denbigh, England, in 1841, and as a child lived in a poorhouse. In his eighteenth year he went to America as a cabin-boy. His real name was John Rowlands, but he changed his surname to that of a New Orleans merchant who had adopted him. He served in the Confederate army during the American civil war, and also for some time in the U.S.A. navy. Then he became a journalist, and was in Spain when summoned to Paris and ordered to search for Livingstone. In 1874 Stanley led an expedition into Central Africa and traced the Congo river from source to mouth. Five years later he was engaged in establishing trading-stations in the area that became known as the Congo.

CHAPTER LXIV

Inventors of Telegraph and Telephone

Galileo and others had dreams of communication by means of magnetism between individuals at a distance from one another, but the first to suggest an electric telegraph was Dr. Charles Morrison, Greenock, in a contribution to the *Scots Magazine* in 1753. Little encouragement was shown to a Mr. Ronalds, a London resident, who contrived to send messages over a wire about 200 yards long. When he communicated with the British Admiralty he was informed that "telegraphs of any kind are wholly unnecessary." Experiments were conducted in France and Germany for some time, and by 1837 important developments had taken place. In this country Cooke and Wheatstone introduced a five-needle instrument which required five lines. Morse, in the United States, developed a unique system for a single-needle instrument.

Samuel Morse (1791-1872), a native of Charlestown, Mass., after passing through Yale University, went to England in 1811 to study painting and sculpture and achieved a good deal of success. He also studied on the Continent, and on his return to the U.S.A. became the first President of the National Academy of Design. He crossed the Atlantic on several occasions, and on one return voyage became friendly with Dr. Charles Jackson, Boston, who had been attending lectures on electricity when in Paris. Morse became interested in the subject and the possibility of sending electric signals along a wire. He began at once to invent the dot-and-dash signal code which ultimately came into use all over the world. The vowels were repre-

sented as follows: *a*, dot-dash; *e*, a dot; *i*, two dots; *o*, three dashes; *u* two dots and a dash. When ultimately the Morse code came into use, it sounded to expert telegraphists like a form of speech. In 1843 the United States Congress made a grant which enabled an experimental telegraph line to be erected between Washington and Baltimore and thereafter the telegraph came into general use in the New and Old Worlds. Cooke and Wheatstone had made a successful London demonstration in 1837, but it was not until some years later that the utility of the telegraph system impressed everyone.

Sir Charles Wheatstone (1802-75), a native of Gloucester, in association with W. F. Cooke, took out the first patent in this country for the electrical telegraph. Wheatstone ultimately introduced the automatic telegraph. In his system the message was first punched with the necessary Morse alphabetic signs and then placed in a rapid transmitting machine, the receiving machine at a distance making the records. A speed of about 450 words a minute was ultimately attained. Multiplex telegraphy, by which several messages were sent simultaneously along a single wire, was another wonderful development. The transmission of photographs by telegraphy was introduced by 1928. Long distance cable messages were made possible after William Thomson, Lord Kelvin (1824-1907), the famous Glasgow professor of natural philosophy, introduced the mirror galvanometer and the siphon recorder in which the "moving coil" principle was used for the first time. Wireless telegraphy was introduced by Guglielmo Marconi, who was born at Villa Griffone, near Bologna, Italy, on 25th April, 1874. His father was an Italian landowner and his mother a native of Dublin. Several inventors made Marconi's experiments and developments possible. After he had con-

trived to send wireless messages about a couple of miles, he went to London and in association with Sir William Preece, a Welshman, conducted experiments at the General Post Office, London. In 1899 wireless messages were sent across the English Channel. The British Admiralty introduced the wireless system in the navy, and in 1901 the first wireless signals were sent across the Atlantic from Cornwall to Newfoundland.

Alexander Graham Bell (1847-1922) was the inventor of the telephone. He was a native of Edinburgh, and had been educated in its Royal High School and university, and subsequently at University College, London. In 1870 he migrated to Canada, and he settled in Boston, U.S.A., when he secured the post of Professor of Vocal Physiology at its university. His father, an elocutionist, had introduced a system of teaching the deaf and dumb to read words by observing the motions of the lips of speakers and to utter words themselves, and the young professor developed and introduced it in America. He became interested in telegraph instruments, and hired for a workshop the attics of a Boston electricity firm's building. With an apprentice, named Thomas A. Watson, Bell was engaged in an attempt to solve the problem of sending a number of telegraphic messages over a single wire at the same time when he made an accidental and important discovery. Tests were being conducted, Bell being in one room and the apprentice in another. It chanced that Bell pressed one by one the receiver springs of his instrument against an ear. In the other room a spring had stopped vibrating and the apprentice plucked it once or twice to start it again. Bell heard the plucking, and as he had been long puzzling over the transmission of sound by electricity, he realized in a flash that what was happening was of great significance. He hastened

into the other room, asked the apprentice what he had done and said, "Don't change anything. Let me see." When he had conducted a careful examination, he realized he could solve the problem of the articulatory telephone, and had an experimental instrument constructed. The first test was made by means of a wire stretched from an attic to the ground floor, and the listening apprentice heard Bell's voice, although not very distinctly. The experiments were continued and by the spring of 1876 the first telephone was ready for public demonstration at the Continental Exposition in Philadelphia, a short line having been installed in the Education Section. When the judges came round in the evening, they were tired and did not display much interest in the invention. Fortunately, they were accompanied by Dom Pedro, the young Emperor of Brazil, who became curious and placed the receiver to an ear, while Bell spoke at the other end. "It talks," exclaimed the emperor excitedly. Then others made tests, including Sir William Thomson (Lord Kelvin), who afterwards declared that Bell's telephone was "the most wonderful thing he had seen in America." Next day the telephone was placed in a conspicuous place in the Exposition and the inventor suddenly became famous. The telephone was improved gradually by Bell and others. In 1878 Professor D. E. Hughes, inventor of the microphone, added a transmitter, and Mr. Hunning improved Hughes's microphone, introducing loose grains of carbon. Other improvements were added, and of late years the most important of these was a relay strengthener for great distances.

There was quite a sensation when the first telephone conversation across the American continent took place. Bell, telephoning from New York, said to his friend Watson, then in San Francisco, "Mr. Watson, please come here; I

want you." Watson's answer was, "It would take me a week now."

Bell lived to see wonderful progress achieved, and after taking part in a wireless telephone conversation across the Atlantic, he said to a newspaper representative, "I dare admit I blazed the way, but the great discoveries and development that followed called for the correlation of many minds."

CHAPTER LXV

Great Victorian Poets

The English literary renaissance, of which Wordsworth, Coleridge, Shelley and Keats were such notable figures, had among its later exponents great poets including Tennyson, Browning, Matthew Arnold, and Swinburne.

Alfred Tennyson (1809-92) was born in the rectory of his father at Somersby, Lincolnshire. After his early volumes of poetry appeared, Wordsworth, then an old man, declared that among the younger writers Tennyson afforded "the richest promise. . . . The perception of harmony lies in the very essence of the poet's nature, and Mr. Tennyson gives magnificent proofs that he is endowed with it." After Wordsworth, the poet laureate, died in 1850, Tennyson was chosen as his successor.

Tennyson's masterpieces include his long poem "In Memoriam" (1850), a tribute to the memory of his friend Arthur Henry Hallam, who died young and full of promise. It not only expresses the poet's emotion, often in passages of great lyrical beauty, but his religious beliefs and aspira-

tions and his thoughts on profound questions that exercised the minds of many in his time. His "Idylls of the King" are poetic versions of the Arthurian legends, while "Maud" is a dramatic lyrical poem of tragic character. There is no purer and more moodful and musical poetry in English literature than "The Lotos Eaters", "The Lady of Shalott", and "Enone". A characteristic lyric, which reveals Tennyson's beauty of language, sense of word music, and minuteness of description, is "The Brook":

I slip, I slide, I gloom, I glance,
Among my skimming swallows;
I make the netted sunbeam dance
Against my sandy shallows.

I murmur under moon and stars
In brambly wildernesses;
I linger by my shingly bars;
I loiter round my cresses;

And out again I curve and flow
To join the brimming river,
For men may come and men may go,
But I go on forever.

Tennyson was raised to the peerage by Queen Victoria, his ardent admirer.

Robert Browning (1812-89) was born at Camberwell, London. His first publication was his poem "Pauline" (1833). In 1840 his difficult poem "Sordello" appeared and gave him a reputation for obscurity which clung to him all his life. He was never a popular poet like Tennyson, but about his greatness there can be no doubt. His longest poem, "The Ring and the Book", tells the story of a tragedy in twelve parts, and contains in all about 21,000 lines. Each character gives his version, with comments, of a tragic happening, and public opinion is also dramatically

expressed. When the poem appeared, Thomas Carlyle said to the author, "What a wonderful fellow you are, Browning; you have written a whole series of 'books' about what could be summed up in a newspaper paragraph." His shorter poems which became better known include, "The Pied Piper of Hamelin", "How they brought the Good News from Ghent to Aix", "Christmas Eve and Easter Day", "Pippa Passes" and "A Grammarian's Funeral". That Browning could write as musically and clearly as any other great English poet is made evident by such poems beginning:

O, to be in England
Now that April's there,

and

Nobly, nobly Cape Saint Vincent to the north-west died away;
Sunset ran, one glorious blood-red, reeking into Cadiz Bay;
Bluish 'mid the burning water, full in face Trafalgar lay.

Browning spent many years of his life in Italy, and found inspiration in its ancient works of art and its struggle for national unity and liberty.

Matthew Arnold (1822-88) was the son of Dr. Arnold of Rugby, and a native of Laleham, near Staines. He was for many years an inspector of schools and became in 1858 Professor of Poetry at Oxford. His poetry reveals the influence of Wordsworth, and has that "breath and finer spirit of all knowledge" which Wordsworth regarded as characteristic of the best work. His outlook was infused with his sense of the wonder and mystery of life and he was an intellectual rather than a passionate singer. There is a loftiness in his work, combined with splendour and music, which makes a very special appeal to cultured minds. One of his best poems is "The Scholar-Gipsy".

Algernon Charles Swinburne (1837-1909) was born in

London. His father, an admiral, belonged to an old North-umberland family, and his mother was a daughter of the third Earl of Ashburnham. His poetry is distinguished by its wonderful artistry; he was a master of rhythmical music and of gorgeous phrasing. A strong lover of the sea and sunlight and bright colours, his poetry often resembles the dazzling pictures of the French Impressionists. It is, withal, most musical:

Yea, surely the sea like a harper laid hand on the shore as a lyre.

His wonderful faculty of wedding sound and sense is illustrated in his many sea poems:

Hence is it that life everlasting
As light and as music, abides
In the sound of the surge of it, casting
Sound back to the surge of the tides,
Till sons of the sons of the Norsemen
Watch, hurtling to windward and lee,
Round England, unbacked of her horsemen,
The steeds of the sea.

Swinburne's treatment of Arthurian legend, as in his "Tristram of Lyonesse", was very different from that of Tennyson. The mingled sounds of wind and sea echo and re-echo in sublime word music.

And swordlike was the sound of the iron wind,
And as a breaking battle was the sea . . .
And as a full field charging was the sea,
And as the cry of slain men was the wind . . .
And like the moan of lions hurt to death
Came the sea's hollow noise along the night.

Swinburne was essentially a singer, and Tennyson spoke of him as "a reed through which all things blow into music". So rich and varied is the music of his verse that one can enjoy "the sound of the surge of it" alone.

CHAPTER LXVI

Queen of England's Maids

"East and west and south acclaim her queen of England's maids."

So sang the poet Algernon Charles Swinburne of Grace Darling (1815-42), the far-famed heroine who in her twenty-third year prompted and helped her father to rescue nine lives during a fierce storm. She was the daughter of William Darling, keeper of the Longstone lighthouse, Farne Islands, Northumberland, and, although not robust, was a young woman of dauntless courage. On Friday, 7th September, 1838, the passenger paddle-steamer *Forfarshire*, bound from Hull to Dundee, was disabled during a north-easterly storm owing to a boiler leak. She reached Berwick Bay on the Thursday night, but the engines became useless, and sails were hoisted to keep her from drifting ashore. The vessel soon became unmanageable and the wind and tide carried her southward. A dense fog obscured the coast, and about three o'clock on the Friday morning she struck one of the outer Farne islands.

There were about sixty persons on board and nine escaped in a boat and were picked up by a Montrose sloop at eight o'clock on Saturday morning and conveyed to Shields.

Soon after the steamer struck she broke in two and the stem, quarter-deck and cabin were carried away by a racing current called the "Piper Gut" and everyone in that part of the doomed vessel perished instantly. The few passengers and survivors of the crew on the fore part of the steamer were left on a small rock where the surging billows threatened to sweep them away. The cold was intense, and they

were lashed by rain and sea-spray. A Mrs. Dawson grasped in either hand her son of eight and her daughter of eleven and held them firmly long after they had expired. A man named Donovan clung for hours to a spike nail on a piece of wreckage.

At Longstone lighthouse, about a mile distant, Grace Horsley Darling heard cries of distress in the intervals of the storm, and at daybreak the lightkeeper saw the survivors through his telescope. The courageous young woman urged her father to hasten to their rescue, but he hesitated owing to the wildness of the sea on that dangerous coast. Grace, however, insisted on launching the boat, a fishing-coble, and assisted her father and mother in getting it into the water. Then she entered it and seized an oar. The lightkeeper, against his better judgment, followed her, and bravely and with great daring, the heroic couple rowed through the boiling waters towards the wreck. On reaching the rock William Darling leapt on to it, while Grace, plying both oars, drew back to prevent the coble being dashed to pieces. With much skill and dexterity, Grace again came alongside to take the survivors on board, the members of the crew assisting, and at length nine survivors were rescued and conveyed to the lighthouse. There, owing to the state of the weather, they had to be kept till Sunday, Grace Darling and her mother being indefatigable in their attentions to the sufferers.

A boat with a volunteer crew of seven, one of whom was Brooks Darling, brother of Grace Darling, went out from North Sunderland in a lifeboat and reached the rock after the rescue had taken place. They were forced to seek refuge at the lighthouse owing to the storm and on the Sunday set out for North Sunderland, but had to run in at Beadnel. They again visited the rock on the Monday and found some

bodies. About fifty persons lost their lives in this terrible disaster.

The silver medals of the Royal National Lifeboat Institution were awarded to the lightkeeper and his daughter. Grace Darling became famous, and the sum of £750 was publicly subscribed and presented to her. She died of consumption four years later and was buried in the graveyard of Bamborough church. In the annals of Britain there is no more inspiring story than that of the brave Grace Darling, who risked her life during a tempest to rescue the perishing from that wave-lashed rock on the Northumberland coast.

Swinburne, in his poem on the heroine, visions Grace and her father rowing through "the storming surf" in the dawn:

Towards the cries that rent and clove the darkness, crying for aid . . .
Life by life the man redeems them, head by storm-worn head,
While the girl's hand stays the boat . . .
Ah! but woe for one, the mother clasping fast her dead! . . .

Back they bear and bring them safe the woeful nine . . .
All the clamorous years between us storm down many a fame,
Crowned and throned our queen, and as they hailed we hail her
name.

CHAPTER LXVII

Great Victorian Novelists

In 1836, four years after the death of Sir Walter Scott, there was published in London a group of articles by a journalist entitled *Sketches by Boz*. The nom-de-plume "Boz", the nickname of a younger brother, had been adopted by the writer who was Charles Dickens (1812-70).

Another series of articles, *The Pickwick Papers*, was begun in the same year and issued in instalments. Only four hundred copies of the first issue were published, but the weekly sales increased greatly, Mr. Pickwick, Sam Weller, and the other characters having become exceedingly popular. In January, 1837, a new serial, *Oliver Twist*, began in the magazine *Bentley's Miscellany* and similarly attracted public attention. *Nicholas Nickleby* followed, and then came the weekly publication of the instalments of *Master Humphrey's Clock*, which grew into the stories *The Old Curiosity Shop* and *Barnaby Rudge*.

Dickens was the son of a clerk in the Navy Pay Office, who after serving in Portsmouth received promotion to Somerset House, London, but managed his private affairs so badly that he was sent to a debtors' prison. Charles had to find employment in a blacking factory, and afterwards became a clerk. He learned shorthand, and served as a newspaper reporter in the House of Commons. His "Boz" sketches were published in book form in his twenty-fourth year.

When the *Daily News* was founded in 1846 Dickens became the first editor, but he resigned this post after three weeks and became a contributor. Two years later his *Dombey and Son* was published, and it was followed by *David Copperfield*. His fame as a popular and original writer had by that time been firmly established, and he became a wealthy man. He was engaged in his last book, *The Mystery of Edwin Drood*, when a sudden attack of paralysis proved fatal in his fifty-ninth year.

Dickens was a writer whose personality was an attractive one. He was a realist who had an intimate knowledge of London life and customs and an eye for character. His strong sense of humour made him a writer of delightful comedy, while his deep sympathy with suffering infused

his work with a pathos that proved irresistible in his day. He was also the friend of the wronged and the needy and a social reformer, and his stories led to the introduction of laws of more humane character. It was largely due to him that debtors' prisons and public executions were abolished, and the private and parochial school system underwent a change for the better. His *Christmas Carol* did much to infuse the Christmas season with a spirit of kindness and sociability. Dickens was the novelist of the people, whom he not only entertained and delighted, but influenced greatly in a moral and cultural sense. No novelist has ever created more distinctive characters; he made them so familiar to thousands that they seem to be personal acquaintances. He was undoubtedly a great genius.

William Makepeace Thackeray (1811-63), a contemporary, was born in Calcutta, the son of an official in the service of the East India Company. He was sent to England in his sixth year, his father having died, and when eighteen became a student at Trinity College, Cambridge, but left it after a year. He afterwards studied French and German on the Continent, and for a time was an art student in Paris. On his return to England he was prevailed upon to study law to qualify as a barrister, but found the work distasteful. On coming of age he inherited about £500 a year, but the failure of an Indian bank and some rash speculations caused his fortune to disappear. He then began to earn his living as a writer, and in time attracted attention as a satirist, humorist, and critic. In his thirty-fifth year he began to write the first of his great novels, *Vanity Fair*, which was issued in monthly numbers, beginning in January, 1847. His *Pendennis* was similarly issued towards the end of the next year. It was followed by *Esmond*, *The Newcomes*, and *The Virginians*. His last novel *Denis Duval* was left un-

finished. He died from a sudden illness in his fifty-third year.

Thackeray's novels are very different from those of Scott or Dickens. He had travelled a great deal, was very widely read, and had a very definite philosophy of life. His fiction, withal, was temperamental; he introduced into it much of his own personality and his own feelings regarding his characters, commenting upon them, criticising them, inquiring regarding their motives, and making self-confessions. This was quite a new spirit in fiction. Thackeray was also distinctive as a great prose stylist. He wrote with ease, grace, and artistic restraint. He was a great literary man as well as a great novelist.

Charles Reade (1814-84), born at Ipsden House in Oxfordshire, was elected a fellow of Magdalen College, Oxford, in 1835, and became a barrister in 1843. He was for a good many years a student of literature before he began to write for the public. At first he wrote plays, his ambition being to become a popular dramatist, and some of his plays were produced. His first novel *Peg Woffington* was published in his thirty-ninth year, and he subsequently wrote fourteen others. *It's Never Too Late to Mend* (1856), a tale of prison abuses, was a novel with a purpose. He devoted several years to the collection of his material, and sought to show that the prison system of his time confirmed offenders in a life of crime rather than reformed them. He did much to educate public opinion and bring about a change. His masterpiece was *The Cloister and the Hearth*, a story of the Middle Ages, which many regard as one of the greatest historical novels in any language. Swinburne has referred to it as being "among the very greatest masterpieces of narrative," praising it for its vivid and stirring incidents, and "its tender truthfulness of sympathy, its ardour and

depth of feeling, the constant sweetness of its humour, the frequent passion of its pathos." He regarded its author as "a truly great writer of a truly noble genius". Reade was a master in the art of constructing a story, and displayed great dramatic power. There is not a dull moment in his best work.

Two distinguished women novelists were the sisters Charlotte Brontë (1816-55) and Emily Brontë (1818-48). Charlotte's three great stories were *Jane Eyre* (1847), *Shirley* (1849), and *Villette* (1852). Emily wrote *Wuthering Heights* which was published after her death. Their father, the Rev. Patrick Brontë, was an Irishman, and their mother a native of Penzance. When the girls were very young their mother died after their father had removed to the moorland village of Haworth in Yorkshire, about four miles from Keighley. In 1842 the sisters went to Brussels to acquire a knowledge of French and German, and it was their intention on their return, to open a school, but nothing came of their scheme. They lived a lonely life in the moorland country and were both temperamental women. At home they were reticent, but when they wrote they expressed themselves with vigour and feeling. Emily's novel is gloomy and voices the passionate struggle of a soul in the thrall of Destiny. The best and brightest of Charlotte's works is *Shirley*. All the Brontë novels are very distinctive.

Mrs. Gaskell (1810-65), whose maiden name was Elizabeth Cleghorn Stevenson, was born in Chelsea, London. She was the daughter of William Stevenson, who was for a period a Unitarian clergyman. Her mother died a month after Elizabeth was born and the infant was cared for by her maternal aunt, Mrs. Lumb, at Knutsford in Cheshire, the village called "Cranford" in her novel of that name. In 1832 she married the Rev. William Gaskell, a Manchester

Unitarian minister. Her first novel, *Mary Barton* (1848), was a story of life in Manchester. *Cranford* was her best novel. It first appeared in serial form in *Household Words* between 1851 and 1853, and although it sold slowly at first, it has given her an enduring place in English literature.

George Eliot (1819-80) was the pen-name assumed by Mary Ann Evans, daughter of a Warwickshire land agent, who was born at Arbury Farm, near Nuneaton. Her father engaged tutors to attend to her education, and she acquired a scholarly knowledge of German and Italian. After her father died in 1849, she spent about a year on the Continent with friends. For several years she was a critic and translator. She had reached her thirty-seventh year when she began to write fiction. Her *Scenes from Clerical Life* (1857) was the first novel that bore the name George Eliot. Two years later appeared her *Adam Bede*, which proved a popular success. *The Mill on the Floss* was published in 1860, her *Silas Marner* in 1861, her *Romola* in 1863, her *Felix Holt* in 1866, her *Middlemarch* in 1872, and her *Daniel Deronda* in 1876. There is little plot in her stories and no high degree of dramatic power, but her farmers and other characters of the English midland counties are finely drawn and most realistic. The dialogue is full of insight and humour, and she displays a rich imagination. Her own high sense of duty pervades her stories, and she always insisted that one reaps what one sows. As a novelist she takes rank with Scott, Thackeray and Dickens.

CHAPTER LXVIII

A Great Pioneer Nurse

"What a comfort it was to see her pass, even. . . . We lay there by hundreds; but we could kiss her shadow as it fell, and lay our heads on the pillow again content. . . . Before she came, there was cussin' and swearin', but after that it was as holy as a church."

These are extracts from invalided soldiers' letters, written during the Crimean war (1854-56), in which Britain, France and Turkey were allies in conflict with Russia, and they refer to Miss Florence Nightingale (1820-1910), the famous nurse and hospital reformer.

On 20th September, 1854, the allies won the battle of Alma, and on 25th October, the battle of Balaklava, in which there occurred the famous charge of the Light Brigade. Great Britain was thrilled by the achievements of her gallant soldiers. "The battles are over and the victory is won," was a London press opinion expressed in October. . . . "Never since the days of Napoleon—we may almost say since the days of Cæsar—has an exploit of arms been attended with such entire and instantaneous success. . . ."

Then came complaints regarding the hospital accommodation at Scutari (opposite Constantinople) which was referred to as "a perfect failure". The sick and wounded from the Crimea were placed in ships without medical attention and those that survived the voyage across the Black Sea were carried ashore at Scutari and placed in dirty and evil-smelling Turkish barracks used as hospitals. A lady, writing from Constantinople regarding the condition of the invalided soldiers, gave a terrible account of

what she saw. "To think," she wrote, "that there are 3000 lying in the barracks and not even doctors enough to take care of them, and no nurses. . . . You will understand better the state these poor creatures are in when I tell you that many of them were brought down here three days after the battle without their wounds having been washed, even, and some were full of maggots; and most of them that have died since have done so after amputations from want of proper care." Many letters, similarly telling of the hospital horrors, were published and their sad story was confirmed by Mr. W. H. Russell, the war correspondent, who wrote with indignation, "The manner in which the sick and wounded have been treated is worthy only of the savages of Dahomey."

Old and feeble Chelsea pensioners were sent out as an ambulance corps and many of them died. Elderly Greek women, employed as nurses, were unable to stand the strain, or, as a lady letter-writer told, "drank so dreadfully that there was no depending on them."

Miss Florence Nightingale volunteered to go out to Scutari with a band of selected nurses, and her offer was accepted by the War Office. Some exalted military personages, however, regarded with scorn the introduction of women into military hospitals. "Women will be wanting to teach us to fight next," they sneered, but their opinions were unheeded in the clamour of public indignation that had been aroused by the exposure of military hospital inefficiency.

Miss Nightingale's expedition left England on 21st October, and reached Constantinople on 4th November, just when hundreds of wounded men, who had fought at the battle of Balaclava on 25th October, were being landed with their wounds undressed and broken bones unset,

their uniforms stiff with blood and miry and verminous.

In the Turkish barracks-hospitals there was not only a shortage of beds and clothing, but of all kinds of utensils, including scrubbing brushes, while the buildings were in a most insanitary condition.

Miss Nightingale and her nurses set to work with tireless devotion and skill, and in a few weeks glowing accounts of changed conditions began to reach London. But less was heard publicly of Miss Nightingale's urgent request for more nurses and adequate supplies. She had been placed in command of the nursing organization, and had a government storehouse for hospital supplies established under her control. She proved herself a great organizer and administrator. By the spring of 1855 the rate of mortality in the hospitals had fallen from 42 per cent to 2.2 per cent. Not only were the nursing services vastly improved by Miss Nightingale; she also established recreation and reading rooms, and even classrooms for the convalescent soldiers. She became a national heroine. But she disliked publicity and was indifferent to praise. Miss Nightingale was wholly absorbed in her nursing mission—"in this coarse, repulsive, servile, noble work," as she put it.

Miss Florence Nightingale was born in the ancient Italian city of Florence on 12th May, 1820. Her father's original name was William Shore, and he was a relative of Sir John Shore, Governor-General of India, who became Lord Teignmouth. He assumed the surname Nightingale when he inherited the estates of his maternal granduncle, Peter Nightingale, and became a wealthy man. The girlhood of Florence and her sister Frances was spent between the family residences, Lea Hall in Derbyshire and Embley Park in Hampshire. Florence was fond of animals and there are girlhood stories of her nursing pets which had met with

injuries. She also visited poor people who were ailing and gave them food, clothing and flowers.

Mr. Nightingale, a scholarly man, attended to the education of his daughters, and when the family travelled on the Continent they had opportunities of becoming linguists. Florence became a fluent speaker of Italian, French and German. One of her favourite hobbies was photography. She was also devoted to music.

When Florence was about twenty-four, she decided to become a hospital nurse. Her mother was shocked at the idea of a young lady in good circumstances adopting such a career, and so were many of her friends. "It was as if I had wanted to be a kitchen-maid," Miss Nightingale wrote years afterwards. She was prevented from training as a nurse in Salisbury hospital, but afterwards visited many hospitals on the Continent, studied their systems and became highly competent in the business of hospital administration. In 1853, after gaining much experience of nursing-homes in Paris, she returned to London and became superintendent of a nursing institution for poor gentlewomen. Her committee and staff found her highly capable in dealing with both nursing and housekeeping. In 1854 she was offered and accepted the post of Superintendent of Nurses at King's College Hospital, London. Then came the terrible revelations regarding the Crimea and her offer to go out with a band of nurses to manage the military hospitals.

When the war was over a sum of £50,000 was raised by public subscription and presented to Miss Nightingale in recognition of her noble and efficient services. She devoted the whole of this sum to the founding of an institution to train nurses, attached to St. Thomas's Hospital, London, and set herself to the work of having the Army Medical

Department thoroughly reformed. Modern nursing owes much to the tireless activity and philanthropic labours of this great woman who devoted her whole life to the service of humanity.

CHAPTER LXIX

Modern Schools of Painting

In the middle of the nineteenth century a new movement in painting was promoted by a group of artists known as the Pre-Raphaelite Brotherhood. They were at the outset strongly influenced by the work of Ford Madox Brown (1821-93), who in his "work" revealed that a subject like a gang of navvies engaged in digging in a road had great possibilities in design and colour, a flower-woman, and a passing lady, richly attired, contrasting with the dingy attire of the workmen. Beauty was thus discovered by the artist in a commonplace scene. A later characteristic study by this artist is the "Christ washing Peter's feet" which is exhibited in the National Gallery, London. At the time these and other pictures aroused much controversy, being departures from orthodox painting in method and treatment of subjects. Ford Madox Brown was a realist and intensely individual.

The founders of the Pre-Raphaelite Brotherhood or School aimed at perpetuating the tradition which had existed before Raphael, the Italian painter, began to exercise his widespread influence. They rid themselves, indeed, of the conventions following the Renaissance and resolved to paint with an eye upon their subject.

Holman Hunt (1827-1910) was the founder of the Brother-

hood. When he planned to paint religious pictures he did not adopt the treatment of the Italian painters, who not only imitated the ancient Greeks, but introduced a very Italian atmosphere into Hebrew life. He went, instead, to Palestine and there painted his "Christ among the Doctors", depicting real Jewish rabbis in his picture. His "Scapegoat" was shown in the authentic scenery of the desolate Dead Sea. He was a careful and accurate painter, greatly concerned about detail and one capable of depicting real emotion with sympathy and sincerity.

Dante Gabriel Rossetti (1828-1882), a follower, was a poet as well as a painter. Indeed, his poetry was that of a painter, and his painting was that of a poet. He was an accomplished draughtsman, but not so good as a colourist; his brushwork sometimes spoiled his fine drawing. A sadness, which was temperamental, characterises much of Rossetti's work. "Ecce Ancilla Domini" in the Tate Gallery, London, is a very characteristic picture. It shows that Rossetti's colour range was limited, but yet rich and delicate in tone. Although a certain stiffness is felt, the draughtsmanship is very fine.

John Everett Millais (1829-1896), another member of the Brotherhood, began as a disciple of Holman Hunt, but subsequently displayed a mastery of brush work never reached by any of the other "brothers". His wonderful technical powers and minuteness of vision are revealed in his "Christ in the House of His Parents". Its detail is almost photographic. Like the other members of the "Brotherhood", he had, as a matter of fact, been influenced by the introduction of photography, which revealed visions of life and nature not quite the same as seen by human eyes, motion being arrested before completion and gestures and expressions caught, as it were, in phases.

Edward Burne-Jones (1833-1898) was at first a student of Rossetti's, and was similarly an accomplished draughtsman and a studio painter. His pictures are notable for their sense of design and harmonious colouring, but seem to be out of contact with reality. Their decorative value is, however, very high.

George Frederick Watts (1817-1904), although not a member of the Brotherhood, was a great colourist, but less able as a draughtsman. He was a decorative painter and inclined to overdo his imagery. One of his finest works is "Sir Galahad", which breathes the spirit of a romantic devotion to purity of life and devotion to high ideals, and is a fine colour study and splendid in composition.

The Impressionist School escaped from literary and romantic influences and appears to have caught a measure of its inspiration from the work of Turner. Its members painted their impressions of the elusive beauties of nature in some of its moods, and the psychological traits of a human subject, rather than the physical likeness. They aimed at compositions in colour, depicting subjects as they were felt as well as seen, revealing the artist's vision and æsthetic emotions.

James McNeil Whistler (1834-1903), an American by birth, was a pioneer of the Impressionists in this country. His work was in sharp contrast to the careful and exact draughtsmanship of the Pre-Raphaelites, while he used colour differently. He ridiculed the practice of a photographic style and, having come under the influence of Japanese art, was less concerned by the outward aspects of nature than by what nature revealed to the artist. He had also been influenced by the French Impressionists, including Edouard Manet and Claude Monet. These painters did not attempt to paint nature with minuteness and exactness of

detail, but rather to present a momentary impression of a scene. When, for instance, one steps out into the bright sunshine on a summer day, the light and colour are somewhat dazzling. Trees and flowers seem to flicker and tremble as do their reflections seen in water. The Impressionists caught effects of this kind, the light and atmosphere forming a sort of film over natural objects, and their effects were often wonderfully good. Some of the French Impressionists reproduced in a wonderful manner the vibrations of the atmosphere and the dazzling light effects. Whistler preferred low tones and painted scenes in softer colour moods such as are revealed by a grey evening or a seascape in low twilight. He had a fine command of what is known as "tone" and his sense of design was masterly. It is difficult nowadays to understand why he should have aroused so much controversy, but a new fashion in painting, like a new fashion in attire, invariably creates a sensation for a time.

The reaction to impressionism came quickly. Three French painters, Cézanne, Van Gogh, and Gauguin, who differed greatly in their styles, became known as "Post Impressionists". Their concern was not with resemblance or visual experiences, but with expressing sensations stirred by brooding over nature. They were essentially colourists who used colour to emphasize their experiences. It did not matter to them whether there was distortion or harshness of treatment, so long as the emotion felt was expressed in explosions of colour. Although their work is individual and often violent, they have left their influence in contemporary art; having made appeal mainly to artists interested in experiments.

CHAPTER LXX

Talking Machine and Electric Light

“Grains of sand sprinkled on a smooth surface of glass or wood on or near a piano sift themselves into various lines and curves according to the vibrations of the melody played on the piano keys.” Thus wrote Thomas Alva Edison (1847-1931), when dealing with the recording on a solid substance of “the sound waves set going by the human voice”. He has told how he made his discovery which resulted in the invention of the phonograph. One day while working at a machine intended to repeat Morse alphabetic dots and dashes recorded on paper, he found that when the cylinder carrying the indented paper was revolved swiftly, it gave off a “humming noise somewhat resembling human talk. This led him to fit a diaphragm to the machine, into which he spoke. The sound-waves of his voice indented the paraffined paper and he then revolved the cylinder rapidly and heard his words repeated. Without delay he prepared a sketch of a machine, the first phonograph, and it was made for him by John Kruesi, a clever mechanic. It had a cylinder which was turned by hand and tinfoil was the material on which the sound records were made. When Edison tested the new machine he repeated the first verse of “Mary had a little lamb”. The machine reproduced the words faintly but distinctly and everyone present was greatly astonished. This crude little phonograph is preserved in the South Kensington Museum, London. The first patent was taken out in Great Britain in 1877, and in the following year the invention was patented in the United States.

Edison found that tinfoil was not a good recorder, and, after experimenting, obtained a mixture of waxes which gave better results. He afterwards tried stearate of soda and produced a still better composition for making sound-wave records.

For a time the phonograph was regarded as an amusing toy. It was exhibited at public entertainments, a performer shouting a few words into it and then having them reproduced, to the astonishment and amusement of hearers. Then it was used in penny-in-the-slot machines, two rubber tubes conveying the sounds to one's ears.

After the first public exhibition of the phonograph in the Crystal Palace, London, in 1888, records were made of the voices of several distinguished men, including the poets Tennyson and Browning, and statesmen like Gladstone and Bismarck. Musical records were also made. A later development of the phonograph was the gramophone, with which everyone is nowadays familiar.

The invention of incandescent electric lighting was achieved by Edison after about thirteen months of constant experimenting. In 1878 he saw arc lamps which were, however, too big and bright for ordinary use, and realized that small lights would be excellent for houses, shops and offices. He conceived the idea of the incandescent light, and experimented with different metals to discover a suitable filament. After many failures, he bought some cotton thread and carbonized it. It was placed inside the bulb from which the air was extracted and a bright light shone forth when the electric current was turned on. Edison then realized that he must discover some kind of carbon, and tried various materials. "Finally," as he has told, "I carbonized a strip of bamboo from a Japanese fan and saw that I was on the right track." Ultimately a contract was

made with a native of Japan to supply the proper fibre. "That man went to work," Edison has stated, "and cultivated and cross-fertilized bamboo until we got exactly the quality we required." There has subsequently come into use a carbonized filament of cotton thread treated with strong sulphuric acid and hardened by alcohol. This filament is attached to leading-in platinum wires by a special cement.

CHAPTER LXXI

Conquest of the Air

The conquest of the air had long been a dream of various peoples from early times. In ancient Greek mythology the story is found of the wonderful architect named Dædalus, the Athenian, who made wings with feathers and wax for himself and his son Icarus and flew away from Crete across the sea. Icarus, according to the myth, rose too high in the air, and, the sun heat causing the wax to melt, he fell into that part of the Mediterranean called the Icarian Sea. Dædalus, however, landed safely in Sicily.

In Persian and Arabian stories we read accounts of fliers on "magic carpets". The Hindu sacred books contain stories regarding flying cars. Geoffrey of Monmouth, the twelfth-century English historian, tells of King Bladud, the founder of Bath, who fashioned wings for himself but in trying to fly from the roof of a temple in London fell to the ground and was killed. The early English poet Layamon, in his thirteenth-century epic "The Brut", tells that Bladud put on "fether-home" ("feather-hems") and flew high, but the wind snapped the cords supporting his

wings and he "feol to folde" ("fell to earth") and was cleft in pieces.

In the eighteenth century, Dr. Black, Edinburgh, demonstrated that a bag of light material filled with hydrogen gas, could rise in the air. Similar contrivances were subsequently exhibited in Paris. Pilâtre de Rozier, a daring Frenchman, in 1783 reached a height of fifty feet in a balloon, and two years later the English Channel was crossed by a balloon flown by an Englishman and an American. Experiments with fish-shaped balloons fitted with propellers and rudders were conducted in Paris in 1884 and 1885. This type of balloon was improved and made practical early in the present century by Count Zeppelin, Germany.

The aeroplane has not, however, been developed from the balloon, but rather from the "box kite". It was invented by the two American brothers, Wilbur and Orville Wright, who began to experiment with gliders in 1889. After carrying out many tests, they fitted a glider with a four-cylinder engine of twelve horse-power, which they had constructed in their bicycle shop at Dayton, Ohio. The first successful flight with an aeroplane lasted for only twelve seconds, during which a distance of 120 feet was covered. It was carried out on a winter day on the sand dunes near the village of Kitty Hawk in North Carolina. During the next three years the Wrights made 160 experimental flights, the longest lasting about half an hour. By 1908 the rate of speed had been raised to thirty-eight miles an hour, and it was considered a great achievement when, at Paris, in competition with others who had constructed aeroplanes, Wilbur Wright won the Michelin prize for a flight of fifty-six miles. Rapid progress was achieved later by various inventors. Wilbur Wright died in 1912, but his brother lived to see commercial aviation firmly established.

INDEX

- Aeroplane, Brothers Wright invent, 251.
 Air, Conquest of, balloon, Zeppelin, and aeroplane, 250 *et seq.*
 American Eagle, English origin of, 153.
 Anson, Lord George, voyage round the world, 120 *et seq.*
 Apple, A Historic, Sir Isaac Newton and, 116.
 Arc, Joan of, 35 *et seq.*
 Ariosto, Ludovico, Italian poet, 53 *et seq.*
 — Tasso and, 57.
 Arkwright, Sir Richard, a maker of cotton industry, 127-8.
 Armada, The, 72-3, 77.
 Arnold, Matthew, poet, 230.
 Arthurian Romances, Caxton's edition, 4.
 Asia, Marco Polo's travels in, 15.
 Astronomers, Caroline Herschel, 186.
 — Sir John F. Herschel, 186.
 — Sir William Herschel, 184 *et seq.*
 — Laplace, 186-7.
 Astronomy, Galileo's career, 92.
 — Ptolemaic system, 59, 60.
 — researches of Copernicus, 59, 60.
 Atlantis, New, Bacon's ideal state, 67-70.
 Austen, Jane, novelist, 189, 190.
 Aztecs, The, conquered by Spaniards, 28 *et seq.*
 Bacon, Lord, career of, 67 *et seq.*
 — modern inventions anticipated by, 69.
 — "New Atlantis", ideal state of, 68-70.
 — Royal Society suggested by, 70.
 Bacon, Roger, pioneer scientist, 59.
 Baillie, Joanna, poetess, 188.
 Baillie, Lady Grizel, 139.
 Balboa, discoverer of Pacific, 32.
 Balloon, invention of, 251.
 Barbauld, Anna Letitia, 142.
 Barnard, Lady Anne, poetess, 143.
 Beatrice, Dante and, 9 *et seq.*
 Beaufort, Lady Margaret, Cambridge and Oxford endowments of, 7.
 — connexions with Scotland, 5.
 — "Lady Margaret's Hall" and "Lady Chapel", Westminster, 8.
 — memorials of, 7, 8.
 — mother of Henry VII, 5.
 Bell, Alexander Graham, telephone invented by, 226 *et seq.*
 Bell, Henry, steamer pioneer, 213.
 Blake, Robert, landsman becomes great naval leader, 100 *et seq.*
 Blake, William, poet and painter, 165.
 — poetry of, 205.
 Blamire, Susanna, 143.
 Blank Verse, Surrey originated English, 78.
 Boccaccio, first novelist, 13.
 — friend of Petrarch, 12.
 — Giotto, friend of, 43.
 — pioneer of Renaissance, 13.
 Bojardo, Matteo Maria, Italian poet, 53.
 Bonaparte, Napoleon, 174 *et seq.*
 Botticelli, Renaissance painter, 44, 45.
 Brontë, Charlotte and Emily, novelists, 238.
 Browning, Elizabeth Barrett, poetess, 216-17.
 Browning Robert, Fra Lippo Lippi poem, 43, 44.
 — poet, 229-30.
 Bruce, James, discovers Abyssinian source of Nile, 149 *et seq.*
 Burleigh, Countess of, 138.
 Burleigh, Lord, 72.
 Burne-Jones, Edward, painter, 246.
 Burns, Robert, renaissance, pioneer 204-5.
 — Scottish national bard, 166-8.
 Byron, Lord, and Ariosto, Italian poets, 53.
 — on Pulci, Bojardo, 53.
 — on Tasso, 56.

- Cambridge, Lady Margaret Beaufort's services to University of, 7.
 Camoens, Luis Vaz de, Portuguese epic poet, 27.
 Cannibals, The, Montaigne's essay on, 63 *et seq.*
Canterbury Tales, first printed edition of, 4.
 Carlyle, Thomas, 230.
 Carter, Mrs. Elizabeth, 141.
 Cathay (northern China), Marco Polo in, 15.
 Caxton, William, first English printer, 3, 4.
 — royal patroness of, 5.
 Cecil, William (Lord Burleigh), 72.
 Cervantes, author of *Don Quixote*, 80 *et seq.*
 Cézanne, painter, 247.
 Chapone, Hester, 141.
 Charles I, 104 *et seq.*
 Chaucer, Geoffrey, 1-3, 4.
 Churchill, John (Duke of Marlborough), 117 *et seq.*
 Cockburn, Alicia, 140.
 Coleridge, Kubilai Khan, poem, 16.
 — Samuel Taylor, 205-6.
 Collins, William, poet, 204.
 Colour, Symbolism of, 42.
 Columbus, Christopher, life and discoveries of, 19 *et seq.*
 Constable, John, painter, 164.
 Cook, Captain, career and explorations of, 145 *et seq.*
 Copernicus, Nicolas, 59, 60.
 — Galileo and, 92.
 Cortez, conquest of Mexico by, 28 *et seq.*
 — Keats's reference to, 32.
 Cotton Industry, makers of, 126 *et seq.*
 Cowper, William, poet, 205.
 Crome, John, painter, 164.
 Crompton, Samuel, a maker of cotton industry, 128-9.
 Cromwell, Oliver, career of, 106 *et seq.*
 — Crown refused by, 110.
 — Milton as secretary to, 112.
 — prevented emigrating to America, 105.
Crusoe, Robinson, 129-31.
 Custer, Lawrence, Dutch printer, 4.
 Dante, Beatrice and, 9 *et seq.*
 — Boccaccio lectures on, 14.
 — Giotto friend of, 43.
 — Italy's great poet, 8 *et seq.*
 Darling, Grace, 232-4.
 Davis, Sir John, 78.
 Davy, Sir Humphry, 199 *et seq.*
 Defoe, Daniel, career of, 131.
 Defoe, *Robinson Crusoe* and other works of, 129 *et seq.*
 Diaz, Bartholomew, explorer, 24.
 Dickens, Charles, novelist, 234-6.
Divina Commedia, Boccaccio's professorship, 14.
 — Dante's great poem, 9 *et seq.*
Don Quixote, 80 *et seq.*
 Drake, Sir Francis, career of, 74 *et seq.*
 — *Golden Hind*, cruise of, 75-6.
 — in Armada actions, 73, 77.
 — last voyage and death of, 77.
 — Queen Elizabeth and, 73.
 Dryden, John, 204.
 — on Harvey's blood discovery, 95.
 Edgeworth, Maria, 188-9.
 Edison, Thomas Alva, invention of phonograph and incandescent lighting, 248 *et seq.*
 Eliot, George, novelist, 239.
 Elizabeth, Queen, a great Renaissance figure, 70-1.
 — an English patriot, 71-2.
 — a poetess, 138.
 — description of, 71.
 — England orphaned by death of, 73.
 — England's greatest queen, 70 *et seq.*
 — foundation of United States, 70, 73.
 — grandmother of, 6, 7.
 — Lady Margaret Beaufort and, 5.
 — Mary, Queen of Scots, and, 72.
 — patroness of Drake, 73.
 — Philip II of Spain and, 72 *et seq.*
 — poetry of, 71.
 — poets at court of, 77 *et seq.*
 — scholarship of, 71.
 — Shakespeare's admirer, 73.
 — share of in Drake's *Golden Hind* treasure, 76.
 — Spenser's *Faerie Queene*, 79.
 — the Armada, 72-3.
 — with troops at Tilbury, 73.
 Elliot, Jean, poetess, 140.
 English Blank Verse, Surrey originated, 78.
 Explorers, Lord George Anson, 120 *et seq.*
 — James Bruce, 149 *et seq.*
 — Captain Cook, 145 *et seq.*
 — Christopher Columbus, 18 *et seq.*
 — Cortez conqueror of Mexico, 28 *et seq.*
 — Bartholomew Diaz, 24.
 — Vasco da Gama, 24 *et seq.*
 — Simon Fraser, 160.
 — Dr. David Livingstone, 220 *et seq.*

Explorers, Alexander Mackenzie, 157
et seq.

— Dr. Mungo Park, 194 *et seq.*

— Marco Polo, 15 *et seq.*

— Henry M. Stanley, 220 *et seq.*

Faërie Queene, The, Spenser's great poem, 79.

Fairfax, Sir Thomas, 108.

Fanshawe, Lady, 138.

Fanshawe, Sir Richard, 138.

Faraday, Michael, 202-3.

Fielding, Henry, 132-3.

Fielding, Sarah, novelist, 140-1.

Fisher, John, Bishop of Rochester,

Lady Margaret Beaufort and, 7.

Fra Lippo Lippi, Renaissance painter,

43, 44.

France, The Maid of, Joan of Arc, 35

et seq.

Fraser, Simon, Canadian explorer, 160.

Frederick the Great, career of, 134

et seq.

Fulton, Robert, steamer pioneer, 213.

Fust, John, pioneer printer, 4.

Gainsborough, Thomas, 163.

Galileo, John Milton visited, 91.

— pioneer astronomer, 90 *et seq.*

— telescope perfected by, 92.

Gama, Vasco da, discoverer of sea

route to India, 24 *et seq.*

— the *Lusiads* epic celebrates, 27.

Gaskell, Mrs., novelist, 238-9.

Gauguin, painter, 247.

Giotto, paintings of, 43.

Grant, Mrs. Anne, 143.

Grant, Mrs. Elizabeth, poetess, 143.

Gravitation, Law of, Newton dis-

coverer of, 115-16.

Gray, Thomas, poet, 204.

Greig, Mrs (Mary Sommerville), 187.

Grey, Lady Jane, 138.

Gustavus Adolphus, Swedish king, a

great military genius, 96 *et seq.*

Gutenberg, John, pioneer printer, 4.

Hallam, Arthur Henry, Tennyson's

poem on, 228-9.

Hamilton, Lady, Romney's portraits

of, 163.

Hampden, John, career of, 103 *et seq.*

— prevented emigrating to America,

105.

Hargreaves, James, a maker of cotton

industry, 126.

Harvey, Dr. William, circulation of

blood discovered by, 91 *et seq.*

Hemans, Mrs., poetess, 214-15.

Henry VII, Lady Chapel, 8.

— Lady Margaret, mother of, 5, 6.

Herschel, Caroline, 186-7.

— Sir John Frederick, astronomer,

186.

— Sir William, astronomer, 184 *et seq.*

Holy Roman Empire, 39.

Howard, Henry, Earl of Surrey, a

poet, 78.

Howard, Lord, 73, 77.

Hudson, Thomas, 162.

Humanists, The, origin of name, 12.

Hunt, Holman, painter, 244-5.

Hunter, Mrs., poetess, 144.

Hutchison, Lucy, 138.

Impressionist school of painting, 246

et seq.

Italy, states of, 40.

James VI of Scotland, nominated suc-

cessor by Queen Elizabeth, 70.

Joan of Arc, story of, 35 *et seq.*

Jones, Edward Burne-, painter, 246.

Keats, John, Cortez and Balboa, 32.

— Mrs. Tighe and, 144.

— poet, 204, 207-8.

Kelvin, Lord, cable invention of,

225.

Keppel, Admiral, patron of Thomas

Hudson, painter, 162.

Kneller, Sir Godfrey, 162.

Kublai Khan, 15 *et seq.*

Landon, L. E., poetess, 215.

Laplace, French mathematician and

astronomer, 186-7.

— Mary Sommerville and, 187.

Lennox, Charlotte, 141.

Leonardo da Vinci, a versatile genius,

45 *et seq.*

— Michelangelo and, 47-8.

Lincoln, Abraham, career of, 218 *et*

seq.

Livingstone, Dr. David, missionary

and explorer, 220 *et seq.*

Locke, John, the English philosopher,

career and works of, 113 *et seq.*

Logarithms, Napier inventor of, 88 *et*

seq.

Lusiads, The, epic on Vasco da Gama's

discoveries, 27.

— Fanshawe's translation, 138.

Macaulay, Catherine, 141.

Machiavelli, Nicolo, life and poli-

tical doctrines of, 40-2.

Mackenzie, Alexander, explorations of,

in Canada, 157 *et seq.*

Malory, Sir Thomas, his Arthurian

romances, 4.

Manet, Edouard, painter, 246-7.

- Marconi, G., introduces wireless telegraphy, 225-6.
- Marlborough, Duke of, career and achievements of, 117 *et seq.*
- Marlowe, C., on Machiavelli, 42.
- Mary, Queen of England, 72.
- Mary, Queen of Scots, 72.
- Masaccio, Renaissance painter, 44.
- Mentelin, early Strassburg printer, 4.
- Mexico, Spanish conquest of, 28 *et seq.*
- Michelangelo, Leonardo da Vinci and, 47-8.
- painter and sculptor, 49 *et seq.*
- Military Geniuses, Gustavus Adolphus, 96 *et seq.*
- Napoleon Bonaparte, 174 *et seq.*
- John Churchill, Duke of Marlborough, 117 *et seq.*
- Oliver Cromwell, 107 *et seq.*
- Frederick the Great, 134 *et seq.*
- Duke of Wellington, 180 *et seq.*
- Millais, John Everett, painter, 245.
- Miller, Patrick, marine engine of, 212.
- Milton, John, career and works of, 110 *et seq.*
- Latin Secretary for Council of State, 112.
- visit to Galileo, 91.
- Mona Lisa*, the, 45.
- Monet, Claude, painter, 246-7.
- Montagu, Elizabeth, 141.
- Montague, Lady Mary Wortley, 139.
- Montaigne, M. E. de, career of, 63 *et seq.*
- "ideal state" of cannibals, 63 *et seq.*
- Shakespeare borrowed from in *Tempest*, 66.
- Montezuma, last Aztec ruler of Mexico, 29 *et seq.*
- More, Hannah, 142.
- More, Margaret, 138.
- More, Sir Thomas, career of, 61-3.
- state of Utopia work, 60 *et seq.*
- Morgan, Lady, novelist, 190.
- Morrison, Dr. Charles, first to suggest telegraph, 224.
- Morse Alphabet, 224-5.
- Morse, Samuel, telegraph inventor, 224-5.
- Morte d'Arthur*, first edition of, 4.
- Nairne, Lady, poetess, 188.
- Napier of Merchiston, inventor of logarithms, 88 *et seq.*
- war inventions proposed by, 90.
- Napoleon, 174 *et seq.*
- Naval Geniuses, Robert Blake, 100 *et seq.*
- Naval Geniuses, Lord Nelson, 168 *et seq.*
- Nelson, Lord, 168 *et seq.*
- New Atlantis, Bacon's ideal state, 67-70.
- Newcastle, Margaret, Duchess of, 138.
- Newton, Sir Isaac, discoverer of law of gravitation, 115-16.
- Nightingale, Miss Florence, great pioneer nurse, 240 *et seq.*
- Norreys, Sir John, 77.
- Norton, C. E. Sarah, poetess, 215.
- Novelists, Jane Austen, 189, 190.
- Charlotte and Emily Brontë, 238.
- Daniel Defoe, 129 *et seq.*
- Charles Dickens, 234-6.
- Maria Edgeworth, 188-9.
- George Eliot, 239.
- Henry Fielding, 132-3.
- Sarah Fielding, 140-1.
- Mrs. Gaskell, 238-9.
- Charlotte Lennox, 141.
- Lady Morgan, 190.
- Jane and Anna Porter, 189.
- Charles Reade, 237-8.
- Samuel Richardson, 131-2.
- Sir Walter Scott, 190 *et seq.*
- Tobias George Smollett, 133-4.
- William Makepeace Thackeray, 236-7.
- Nurse, A pioneer, Miss Florence Nightingale, 240 *et seq.*
- Opie, Mrs. Amelia, 143.
- Oxford, Lady Margaret Beaufort's services to University of, 7.
- Pacific, Balboa discovers, 32.
- Pagan, Isobel, poetess, 143.
- Painters and sculptors, William Blake, 165.
- Botticelli, 44-5.
- Ford Madox Brown, 244.
- John Constable, 164.
- John Crome, 164. [247.]
- Cézanne, Van Gogh and Gauguin, 247.
- Thomas Gainsborough, 163.
- Giotto, 43.
- William Hogarth, 162.
- Thomas Hudson, 162.
- Holman Hunt, 244-5.
- Edward Burne-Jones, 246.
- Sir Godfrey Kneller, 162.
- Fra Lippo Lippi, 43-4.
- Edouard Manet and Claude Monet, 246-7.
- Masaccio, 44.
- Michelangelo, 47-8, 49 *et seq.*
- John Everett Millais, 245.
- Sir Henry Raeburn, 163.
- Raphael, 52.

- Painters and sculptors, Sir Joshua Reynolds, 161.
 — George Romney, 163.
 — Dante Gabriel Rossetti, 245.
 — J. M. W. Turner, 164-5.
 — Leonardo da Vinci, 45 *et seq.*
 — George Frederick Watts, 246.
 — James McNeil Whistler, 246-7.
 Park, Dr. Mungo, explorations of, 194 *et seq.*
 Peru, conquest of, 32 *et seq.*
 Petrarch, Boccaccio friend of, 12.
 — Giotto friend of, 43.
 — influence of on Elizabethan poets, 78.
 — poet and pioneer of Renaissance, 11 *et seq.*
 Philip II of Spain, relations with Queen Elizabeth, 72 *et seq.*
 Philips, Mrs. Katherine, 138-9.
 Phonograph, invention of, 248-9.
 Pizarro, Francisco, conqueror of Peru, 33 *et seq.*
 Plumptre, Anne, 141.
 Poetesses, Lady Grizel Baillie, 139.
 — Joanna Baillie, 188.
 — Anna L. Barbauld, 142.
 — Lady Anne Barnard, 143.
 — Susanna Blamire, 143.
 — Elizabeth Barrett Browning, 216-17.
 — Mrs. Elizabeth Carter, 141.
 — Alicia Cockburn, 140.
 — Jean Elliot of Minto, 140.
 — Mrs. Elizabeth Grant, 143.
 — Mrs. Hemans, 214-15.
 — Mrs. Hunter, 144.
 — L. E. Landon, 215.
 — Lady Mary Wortley Montague, 139.
 — Hannah More, 142.
 — Lady Nairne, 188.
 — Margaret, Duchess of Newcastle, 138.
 — C. E. Sarah Norton, 215.
 — Amelia Opie, 143-4.
 — Isobel Pagan, 143.
 — Mrs. Katherine Philips, 138-9.
 — Adelaide Ann Procter, 215-16.
 — Christina G. Rossetti, 218.
 — Helen Selina, Lady Dufferin, 215.
 — Ann and Jane Taylor, 214.
 — Mrs. Tighe, 144.
 — Lady Elizabeth Wardlaw, 139-140.
 — Countess of Winchelsea, 139.
 Poets, Ariosto, author of *Orlando Furioso*, 53 *et seq.*
 — Matthew Arnold, 230.
 — William Blake, 165.
 — Bojardo, author of *Orlando Innamorato*, 53.
 Poets, Robert Browning, 229-30.
 — Robert Burns, 166.
 — Cervantes, 81-2.
 — Chaucer, 1 *et seq.*
 — Samuel Taylor Coleridge, 205-6.
 — William Cowper, 205.
 — Dante, 8 *et seq.*
 — Sir John Davis and Queen Elizabeth, 78.
 — Sir Humphry Davy, 200.
 — John Dryden, 204.
 — Thomas Gray, 204.
 — Henry Howard, Earl of Surrey, 78.
 — John Keats, 207-8.
 — Michelangelo, 52.
 — John Milton, 110 *et seq.*
 — Petrarch, 11 *et seq.*
 — Alexander Pope, 204.
 — Luigi Pulci, author of *Morgante Maggiore*, 53.
 — Queen Elizabeth among the, 71.
 — Sir Walter Raleigh, 78.
 — Dante Gabriel Rossetti, 245.
 — Sir Walter Scott, 190 *et seq.*
 — William Shakespeare, 82 *et seq.*
 — Percy Bysshe Shelley, 207.
 — Sir Philip Sidney, 78.
 — Edmund Spenser, 78-9.
 — Algernon Charles Swinburne, 230-1.
 — Bernardo Tasso and Torquato Tasso, 55 *et seq.*
 — T. Tasso's *Jerusalem Delivered*, 55.
 — Lord Tennyson, 228-9.
 — James Thomson, 204.
 — Leonardo da Vinci, 45.
 — William Wordsworth, 205-6.
 — Sir Thomas Wyatt, 78.
 Polo, Marco, adventures and Asiatic wanderings of, 15 *et seq.*
 — book of, 17, 18.
 Pope, Alexander, 204.
 Porter, Jane and Anna, 189.
 Post Impressionist School of Painting, 247.
 Precece, Sir William, 226.
 Pre-Raphaelite Brotherhood of painters, 244 *et seq.*
 Printing, Caxton introduces in England, 3, 4.
 — inventors of, 4.
 — Renaissance influence, 5.
 Procter, Adelaide Ann, 215-16.
 Ptolemaic astronomy, 59, 60.
 Pulci, Luigi, Italian poet, 53.
 Quixote, Don, 80 *et seq.*
 Raeburn, Sir Henry, 163.
 Railway engine, Stephenson's invention, 208 *et seq.*

- Raleigh, Sir Walter, as poetic admirer of Queen Elizabeth, 78.
 — career of, 86.
 — "The Shepherd of the Ocean", 86.
 — *The History of the World*, 88.
 — poetry of, 86-7.
 — tobacco introduced by, 87.
 — Virginia founded by, 87.
 Raphael, the Renaissance painter, 52, 53.
 Reade, Charles, novelist, 237-8.
 Renaissance, The, art revival of, 42 *et seq.*
 — Boccaccio's part in, 13, 14.
 — Elizabethan movement in England, 77 *et seq.*
 — Exploring energy of, 18 *et seq.*
 — Galileo's career, 90 *et seq.*
 — Dr. Harvey's discovery of circulation of blood, 91 *et seq.*
 — Holy Roman Empire ideal, 39.
 — Humanism, 12, 14.
 — Joan of Arc, 35 *et seq.*
 — Lady Margaret Beaufort and, 5 *et seq.*
 — Machiavelli's political doctrines, 40-2.
 — Petrarch as pioneer of, 11 *et seq.*
 — political changes of, 39 *et seq.*
 — printed book and, 5.
 — Queen Elizabeth and, 70-1.
 — Scientific Inquiry, 58 *et seq.*
 — Wordsworth-Coleridge movement, 203 *et seq.*
 Reynolds, Sir Joshua, 161.
 Richard III, Lady Margaret Beaufort and, 6.
Robinson Crusoe, 129-131.
 Romney, George, 163.
 Royal Society, The, suggested by Lord Bacon in *New Atlantis*, 70.
 Richardson, Samuel, novels of, 131-2.
 Rossetti, Christina G., poetess, 218.
 Rossetti, Dante Gabriel, poet and painter, 245.
 Safety Lamp, Sir Humphry Davy's, 201-2.
 St. Peter's Cathedral, Rome, Michelangelo as chief architect of, 51, 52.
 Schoeffer, Peter, pioneer printer, 4.
 Scott, Sir Walter, admirer of Smollet, 134.
 — *Border Minstrelsy*, 205.
 — career and works of, 190 *et seq.*
 — Dr. Mungo Park and, 194-6.
 Selina, Helen, Lady Dufferin, poetess, 215.
 Selkirk, Alexander, prototype of *Robinson Crusoe*, 130.
 Seward, Anna, 142.
 Shakespeare, William, career and works of, 82 *et seq.*
 — Queen Elizabeth admirer of, 73.
 — *Tempest*, reference to Montaigne's ideal state, 66.
 Shelley, Percy Bysshe, poet, 207.
 "Ship money", English dispute that led to revolution, 103 *et seq.*
 Siddons, Mrs., 163.
 Sidney, Sir Philip, poetry of, 78.
 Smith, Francis P., introduces steamer screw propeller, 213-14.
 Smollet, Tobias George, novelist, 133-4.
 "Solomon's House", in Lord Bacon's *New Atlantis*, 68-70.
 Somerville, Mary, the mathematician, 187.
 Sonnets, early English, 78.
 Spenser, Edmund, great English poet, 78-9.
 — Sir Walter Raleigh and, 86, 87.
 Spheres, in Ptolemaic astronomy, 59, 60.
 Stanley, Henry M., explorer, 220 *et seq.*
 Steamers, the first, 212 *et seq.*
 Stephenson, George, pioneer of railways, 208 *et seq.*
 Stephenson, Robert, railway builder, 211.
 Submarine, the, Napier's proposed invention, 90.
 Surrey, Earl of, poetry of, 78.
 Swinburne, Algernon Charles, poet, 230-1.
 Symington, William, marine engine pioneer, 212-13.
 Tank, the, Napier's war chariot, 90.
 Tasso, Bernardo, 55.
 Tasso, Torquato, Ariosto and, 57.
 — Torquato, Italian poet, 55 *et seq.*
 Taylor, Ann and Jane, 214.
 Telegraph, the electric, invention of, 224 *et seq.*
 Telegraphy, Marconi's wireless system, 225-6.
 Telephone, invention of, 226 *et seq.*
 — trans-Atlantic wireless system, 228.
 Telescope, perfected by Galileo, 92.
 Tennyson, Alfred Lord, poet, 228-9.
 Thackeray, William M., novelist, 236-7.
 Thrale, Mrs., 142.
 Tighe, Mrs., poetess, 144.
 Tobacco, Sir Walter Raleigh introduced, 87.
 Tottel's *Miscellany*, 78.

Trevithick, Richard, Cornish inventor, 210.
 Turner, J. M. W., painter, 164-5.
 United States of America, Abraham Lincoln, 218 *et seq.*
 — foundation of in Queen Elizabeth's reign, 70, 73.
 — George Washington, 153 *et seq.*
 — Hampden and Cromwell prevented emigrating to, 105.
 — origin of national flag, 153.
 — Raleigh founds Virginia, 87.
 Utopia, State of, Sir Thomas More's work on, 60 *et seq.*
 Van Gogh, painter, 247.
 Van Tromp, 101-2.
 Virginia, Raleigh founds, 87.
 Virginia, State of, first English colony in, 73.
 Wardlaw, Lady Elizabeth, 139-140.
 Washington, George, first president of United States, 153 *et seq.*
 Watt, James, improvement of steam engine by, 123 *et seq.*
 — invention of railway engine and steamer made possible by, 125-6.

Watt, James, power of man increased by, 123 *et seq.*
 — steamer screw propeller suggested by, 212.
 Watts, George Frederick, 246.
 Wellington, Duke of, career of, 180 *et seq.*
 Westminster, Lady Chapel, 8.
 Wharnccliffe, Lord, 139.
 Wheatstone, Sir Charles, telegraph inventor, 225.
 Whistler, James McNeil, painter, 246-7.
 Williams, Helen Maria, 141.
 Winchelsea, Countess of, a poetess, 139.
 Wireless Telegraphy, Marconi introduced, 225-6.
 Wordsworth, William, 205-6.
 — Leonardo, sonnet on, 47.
 Wright, Wilbur and Orville, aeroplane invented by, 251.
 Wyatt, Sir Thomas, poems of, 78.
 Zell, Ulrich, early Cologne printer, 4.
 Zeppelin, Count, airship of, 251.

Acc. No.	10820
Class No.	G. 10.
Book No.	1089